Kansas Energy Council

Kansas Energy Report 2006

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Acknowledgments

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An electronic version of this report is available at the Kansas Energy Council web site (www.kansasenergy.org), or on CD from the Kansas Energy Office at the Kansas Corporation Commission, Topeka, Kansas.

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Executive Summary

Energy Developments of 2005

Kansas continued to be a net energy importer in 2005, consuming 432 trillion BTU (British Thermal Units) more than it produces. While the gap between consumption and production is expected to continue growing over the next five years, the rate of growth will slow (Figure 1). High fuel prices will be the catalyst for the slowing of the gap between consumption and production, as consumers use less energy and producers of oil and gas continue to produce at their maximum rates and search for more sources. In the years 2006, 2008, and 2010, the state's net imports of energy are forecast to be 451, 475, and 527 trillion BTU, respectively.

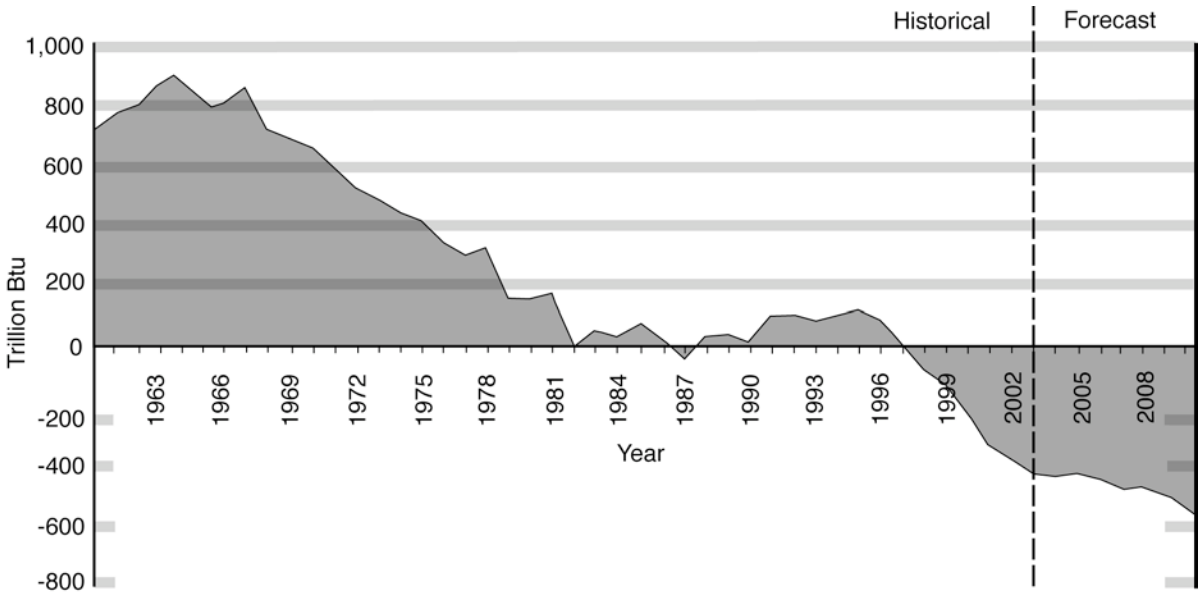


Figure 1—Kansas net energy balance, 1960 to 2003, with projections to 2010. Positive numbers show energy produced in excess of consumption (exports), while negative numbers show energy consumed in excess of production (imports).

Significant energy developments in Kansas in 2005 included the following.

- The value of the state's oil and natural gas production is projected to be over $4.6 billion, significantly more than its previous high of $3.5 billion in 2004. With this huge increase in value, over 100% since 2002 ($2.1 to $4.6 billion), the petroleum industry is experiencing some of the fastest increases in gross value of any of the state's industries.
- Increased energy costs—particularly natural gas, gasoline, and diesel—affected all consumers, but the farming sector is expected to be particularly devastated.
- Consumption of ethanol as a transportation fuel surged as much as 700% over comparable periods in 2004, due to a combination of removing the mandatory labeling for E-10 (10% ethanol blended with gasoline) and a more competitive price compared to regular gasoline.

- Drilling for additional oil and natural gas reserves was robust due to high prices. Shortages of drill rigs and trained crews inhibited more drilling.
- NCRA refinery in McPherson brought its upgraded unit online in the fall 2005 to meet new national standards for low-sulfur diesel fuel.
- TransCanada and ConocoPhillips announced plans for a heavy crude pipeline named the Keystone Project, capable of carrying 435,000 barrels of oil per day, from Alberta to Illinois, passing through Kansas with a possible 295-mile spur south to Oklahoma. The spur would pass by Kansas' three petroleum refineries and cost an estimated $225–300 million to build.
- The 35-million gallon per year (mmgy) East Kansas Agri-Energy (EKAE) ethanol plant in Garnett began producing ethanol in the summer, bringing Kansas ethanol capacity to nearly 170 mmgy at seven facilities.
- Ten gas stations in 9 Kansas cities began selling E85, a motor fuel blend of 85% ethanol and 15% gasoline, considered an alternative fuel by the U.S. Department of Energy.
- The Elk River wind farm in southeast Butler County came online in December, supplying 150 Megawatts (MW) of electricity to Empire District Electric Company. This is the second and largest-capacity wind project in the state.
- Kansas City Power & Light (KCP&L) issued a Request for Proposals (RFP) for renewable energy during the summer. They announced in December plans for construction of a 100.5-MW wind farm near Spearville, northeast of Dodge City in Ford County, to be completed in 2006.
- The Kansas Energy Council worked with other interested groups to develop expertise and investigate policies to promote development of smaller wind projects with local ownership. This Community Wind initiative included a tour of multiple project sites in southwestern Minnesota to determine best practices.
- Utility announcements in 2005 included:
    - Sunflower Electric to add two 600-MW coal units to its Holcomb power plant and three new 345-kilovolt (kV) transmission lines will be built from Colorado into Kansas;
    - Westar plans to build two natural-gas units that would add a total capacity of 150 to 200 MW by 2008 and a 600-MW coal plant by 2012 or 2013;
    - KCP&L, in addition to the Spearville wind farm, plans to build a 900-MW coal plant adjacent to the existing Iatan power plant along the Missouri River in Missouri;
    - Kansas City (KS) Board of Public Utilities (BPU) announced in July that they were considering adding another coal plant to their fleet; and
    - Aquila announced that it will sell its electric operations in Kansas to the six cooperatives that own Sunflower Electric Power.
- A group of local citizens and a local energy developer announced plans to build the Goodland Energy Center, consisting of a 20- to 25-mmgy ethanol plant, a biodiesel plant, and a 25-MW coal plant.

- In April, the Governor signed House Bill 2263 into law, creating the Kansas Electric Transmission Authority (Appendix 4). The authority can build electric transmission facilities or facilitate the construction, upgrade, and repair of third party transmission facilities, to further economic development in Kansas.
- Coal supplies to Kansas utilities began declining in May, due to a national shortage of rail capacity triggered by rail problems in Wyoming and increasing coal demand. Utilities were forced to purchase electricity on the wholesale market or switch fuels (most often to natural gas).
- A legislative Select Joint Committee on Energy was formed to investigate the causes of energy price increases and consider the need for energy planning development in Kansas. The first committee hearings were held December 14–15, 2005.

Energy Forecasts

Consumption

Kansas energy consumption is expected to decrease slightly over the next several years in response to higher prices for petroleum and natural gas. Kansas consumed 1,159 trillion BTU of primary energy in 2002, the last year of data from the U.S. Department of Energy, Energy Information Administration (see Figure 9). This was a 2.5% increase from 2001 energy consumption (1,129 trillion BTU).

Kansas primary energy consumption is expected to decrease annually by between 0.75% and 1.5% over the next several years and increase again by 2010. **Primary energy consumption in 2006, 2008 and 2010 is forecasted to be 1,119, 1,116, and 1,135 trillion BTU, respectively.**

Production

Energy production in Kansas is expected to decrease slightly over the next five years, largely due to continuing declines, 5% to 6%, in the state's natural gas production. In 2003, the last year with complete production data, the state produced 730 trillion BTU of energy (see Figure 10).

Kansas primary energy production is expected to decrease annually by about 3%, with most of that due to declining natural gas production. **For the years 2006, 2008, and 2010, Kansas energy production is estimated to be 668, 641, and 608 trillion BTU, respectively.**

KEC Recommendations

The Council's recommendations for 2006 include items that require action by the legislative or executive branch of state government, as well as activities that the KEC itself will pursue. Except where noted, the recommendations were approved unanimously.

Legislative Action

1. Amend Article 9 of the Uniform Commercial Code to restore a priority creditor status for sellers of oil and gas production when a purchaser is in bankruptcy. Such an amendment would follow the language of the former K.S.A. 84-9-319, which was repealed in 2000. *[approved 13 to 4, with 4 abstentions]*

2. Amend legislation to include an assistance program to help retail petroleum marketers more effectively comply with new federal regulations for Spill Prevention, Control and Countermeasures, to ensure that rural farm and commercial markets continue to have petroleum products available. It is estimated that the cost of compliance for small businesses may be high enough that some marketers will not be able to maintain their current array of petroleum products for local communities. The loss of regional supply sources for a given petroleum product could significantly impact local agricultural and commercial businesses. *[approved 19 to 0, with 2 abstentions]*
3. Legalize negotiations of payments in lieu of taxes (PILTs) between wind developers and counties after permitting has been granted in zoned counties. Furthermore, the Council recommends the Attorney General or other legal counsel be asked for legal clarification on when and how such negotiations can take place in counties without zoning regulations and in unzoned counties that have zoned cities or communities. *[approved 14 to 1, with 5 abstentions]*
4. Adopt a production tax credit for new renewable energy facilities or expansions of existing facilities, including wind, hydro, solar, and biomass up to and including 20 MW in size. Such a tax credit should have language similar to that of the Oklahoma tax credit (see Appendix 8), which has passed muster with the Internal Revenue Service. *[approved 16 to 0, with 3 abstentions]*
5. Endow and facilitate a revolving low-interest loan program to make energy-efficient upgrades (including renewable energy projects) in residential homes and small commercial businesses.
6. Provide tax or other incentive benefits to landlords when they bring rental properties to minimum energy efficiency standards, in recognition of the fact that rental properties are often some of the least energy efficient housing units.
7. Increase spending on current energy-related technical assistance and public education efforts that promote the efficient utilization of all energy resources.

Executive Action

1. Develop a comprehensive Community Wind Support System for aggressively pursuing development of Community Wind (locally owned, commercially scaled) projects, which show great potential economic benefit for local communities and the state as a whole. These efforts should be primarily enabling mechanisms to encourage initiatives from within local communities with local leadership and should include but not be limited to (1) educational activities and support from professionals—engineers, bankers, lawyers, grant writers, siting consultants, and others with expertise in developing Community Wind—to help communities move from no knowledge to turbines spinning, (2) creation of an ongoing revolving loan fund and/or loan guarantees from a State bonding pool that would encourage local financing, and (3) assistance in identifying and writing grants for Federal (especially USDA 9006 grants) and other grants available for Community Wind projects. The Kansas Departments of Commerce, Agriculture, and Wildlife & Parks, Kansas State Extension, Kansas Corporation Commission, Kansas Energy Office and the Governor's Rural Life Task Force should be active participants in this initiative.

2. Set energy-efficiency goals for State agencies to reduce energy use by 10%, based on the average of the last three years, by the end of Fiscal Year 2007, where practical and cost effective.
3. Require the use of energy efficient vehicles in the State fleet when cost-effective and appropriate for their intended use.
4. Formalize the State's pursuit of Federal funding for energy-related projects by charging the appropriate State agencies to assist individuals, small businesses, and communities in obtaining Federal grants.
5. Require all State agencies to purchase Energy Star appliances or equipment, where appropriate and cost-effective, when acquiring new energy-using products or replacing existing equipment.

KEC Action

1. Investigate Minnesota's newly created Community Based Energy Development (C-BED) program to determine its potential application to Kansas; recommend whether C-BED or a similar program should be enacted and how it might impact Community Wind development in the state. A report to KEC should be completed by August 1, 2006. *[approved 18 to 0, with 1 abstention]*
2. Investigate an energy-efficiency program similar to Efficiency Vermont. Such a program would be dedicated to reducing load and helping individuals, businesses, and industries use less energy. A report with a recommendation to the KEC should be completed no later than August 1, 2006.
3. Work to be better informed and develop closer working ties with House and Senate energy-related committees to more effectively develop and implement state energy policy.

Energy Overview

Hurricanes Katrina, Rita, and the U.S. Energy Situation

Energy issues filled the headlines in Kansas, across the U.S., and globally in 2005, as the traditional energy infrastructure was stretched to its limits. As was seen with Hurricanes Katrina and Rita, disruptions anywhere in the system can impact energy resources and affect national and world economies.

Hurricanes Katrina and Rita also called attention to the vulnerability of the nation's energy infrastructure to natural disaster. Approximately one-quarter of the nation's oil and gas production comes from the Gulf of Mexico. Most of it was shut down, damaged, or destroyed by one of these two hurricanes, and full recovery is not expected until well into 2006. Damage to port facilities that receive oil and gas imports also restricted energy supplies to the country. Finally, because the Gulf Coast region is home to a disproportionately large share of the country's refining and processing facilities, even when oil supplies were freed up from the Strategic Petroleum Reserve, refining capacity was insufficient to take full use of it.

Beyond natural disasters, problems with rail transportation affected the nation's coal supplies. Rail problems in Wyoming's Powder River Basin triggered derailments in May, reducing coal loadings by about 15% from the mines that supply about 40% of the coal used nationwide. These shortages cut reserves at many utilities, in some cases to less than 30-day's supply, forcing them into programs to purchase electricity on the market, or causing them to switch to alternative fuel sources, especially natural gas. The subsequent increased demand for natural gas further exacerbated a national supply shortage that was magnified with the loss of Gulf of Mexico production. Coal prices nationwide rose approximately

Factors Affecting Supply and Price

Oil

- The U.S. uses about one-fourth of the world supply.
- U.S. demand for oil is expected to increase.
- U.S. oil production continues to decline; imports now exceed 60%.
- China and India are developing rapidly and will consume more energy.
- OPEC has had problems expanding production to meet global demand.
- U.S. production and refining capacity is vulnerable to disruption from weather.
- No new U.S. refineries have been built in nearly 30 years.
- Many older refineries have closed rather than try to meet stricter air standards.
- Refineries are running at 95% or greater capacity.
- Hedge funds and speculation in commodity markets are widely viewed as driving oil prices higher with every piece of bad news.

Natural Gas

- Most natural gas used in the U.S. is produced in North America.
- Overseas shipments must be liquefied under pressure at costly facilities.
- U.S. demand is growing faster than new domestic reserves.
- Natural gas is increasingly used to generate electricity year round, not just for winter heating fuel.
- Recent coal supply shortages are forcing utilities to use more natural gas, reducing the amounts going into storage for winter and pushing up prices further.
- Increased ability to switch fuels results in natural gas more closely tracking the price of oil.

Coal

- Coal is generally the lowest-cost fuel for electricity generation; increased demand and transportation issues have raised the price 15% or more in recent months.
- Coal is burned to produce 51% of U.S. electricity, but 71% of Kansas electricity.
- Most coal burned in Kansas comes from outside the state, principally Wyoming.
- Access to markets for coal is limited due to rail transportation problems, despite sufficient long-term supply.
- Kansas coals are higher in sulfur and thus must be blended with cleaner-burning coals to meet clean air standards.

15% through the summer and early fall in response.

In northeast Kansas, late-summer flooding caused damage to four Union Pacific rail lines, halting a reported 150 coal trains moving through the state. Around the state, utilities reported difficulty in obtaining coal, as already limited Wyoming coal shipments were rerouted to plants with more serious supply situations and flooding made access to northeast Kansas problematic.

In Kansas, investment in the existing energy infrastructure (e.g., electricity generation and transmission, oil and gas production and refining) will make the state less vulnerable to external disruptions. Similar investments are also needed in conservation, efficiency, renewable energy, consumer education, and a more distributed infrastructure to make the state's energy sources reliable and secure, at the lowest costs possible.

Factors Affecting Supply and Price (continued)

Electricity

- Demand is growing faster than supply: (1) investment in new generation lags behind demand, and (2) investment in transmission has not kept up with growth.
- The national growth in electrical demand puts pressure on the existing infrastructure, which was designed originally to serve individual, not national, utility markets.
- Nationally, the U.S. is divided into separate western and eastern electricity transmission grids; in Kansas, the eastern and western grids meet along the Kansas-Colorado border. Without installation of transmission or an interconnection, electricity cannot be sent to Colorado or other points west.

Energy Policy and Kansas

The supply disruptions and dramatically increased prices of 2005 highlight the importance of sound energy policy. Kansas has potential to diversify its energy resources. The state can extend the life of existing oil and gas fields, expand petroleum-refining capacity, take advantage of its large wind-energy resources, increase ethanol production, and supply valued-added electricity to the region.

For much of the last century, Kansas supplied the nation with oil and gas and is still among the top-ten producing states. The state's oil and gas fields can remain productive for decades if new technologies for enhanced recovery prove successful and economical. A joint industry-federal-state demonstration project, testing the injection of carbon dioxide into an old oil field near Russell, has demonstrated enough technical feasibility that companies are now evaluating a full-scale commercial operation of the process in Kansas.

Kansas refineries import raw crude oil to supplement state production and export refined products across the region. The existing pipeline and distribution infrastructure could support expanded capacity or new refineries.

Wind for electricity and ethanol for transportation are technically and economically viable today and capable of competing effectively with long-established industries. Biomass for fuel and power is a rapidly developing area and a readily available resource in Kansas, and research continues to make hydrogen and solar realistic alternatives at some point in the future.

Wind energy has the potential to meet roughly 10% of Kansas electric power needs in the next decade. Most forecasts suggest that the state's electricity will continue to come primarily from coal, natural gas, or nuclear. Coal will continue as the low-cost solution to increased power demands for the next decade. Clean coal technologies reduce air emissions to levels comparable to those associated with natural gas-fired power. This technology could allow more high-sulfur Kansas coal to be used in power generation, stimulating economic investment in southeast Kansas and diversifying the state's coal supply, making it less vulnerable to rail disruptions.

The Kansas Electric Transmission Authority, created by the 2005 Legislature, provides a new mechanism to add transmission capacity in Kansas. Other state energy legislation passed in 2005 will more effectively allocate costs for new transmission lines and is expected to greatly facilitate construction of long-planned projects (see Appendix 4).

At one time, investor-owned utilities operating in Kansas invested about $1 million per year in research designed to improve efficiency and lower the cost of electricity to Kansas customers, through the Kansas Electric Utility Research Program (KEURP). The organization involved utilities and research universities in conducting projects important to residential, commercial, and industrial customers. KEURP also attracted out-of-state federal and private funding leveraging $8 for every $1 invested by utility members.

A comparable Kansas initiative using the KEURP model could realistically aspire to create and host nationally competitive centers and programs in energy research. Kansas needs to be more aggressive in seeking and attracting funds for energy activities from the U.S. Department of Energy and other federal agencies and programs. State, local, and joint projects with the private sector could all benefit from technical assistance in pursuing the many opportunities that other states are winning.

The energy challenges and issues facing Kansas are massive and require boldness comparable to that exhibited by the pioneers who settled this state. As we develop an energy plan that is comprehensive and visionary, it will most definitely challenge interests, but it is critical to the economic future of Kansas.

Kansas Energy Developments

Petroleum Industry

Oil—Kansas has produced almost 6.2 billion barrels of oil since the first reported production in 1891 (Figure 2). State production reached a peak in 1956 at 124 million barrels. The higher oil prices in 2005 have begun to restore the financial health of the Kansas oil industry, which was decimated during the 1990's. However, activity is limited by available equipment, material, and trained personnel. This limitation is illustrated by the waiting time for a drilling rig, which is often more than a year, coupled with the increase and plateau of drilling permits (see box).

Drilling Permits issued by the Kansas Corporation Commission (Dave Williams, KCC, personal communication).

Year	Number of Permits
2005	3,600–3,650
2004	3,596
2003	2,626
2002	1,716

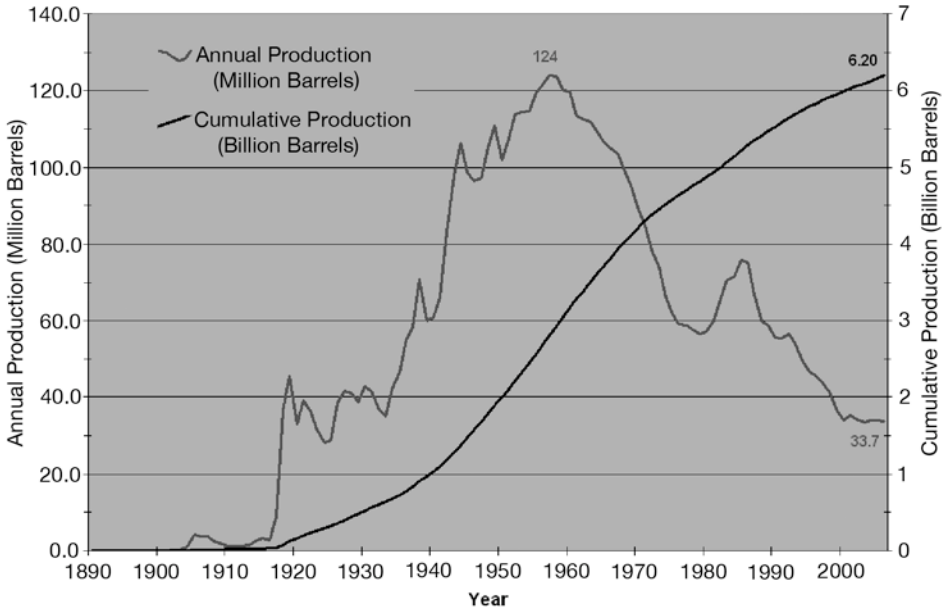


Figure 2—Kansas annual and cumulative reported oil production from 1891 until 2005. Cumulative production is estimated at 6.2 billion barrels. The highest annual production of 124 million barrels was reported in 1956. Production in 2005 is estimated at 33.7 million barrels.

As the industry attempts to keep pace with the increased drilling activity, innovative technological approaches are assisting production and discovery. Recent activity has focused on the successful application of 3-D seismic data to image difficult to predict oil reservoirs such as the Arbuckle, Mississippian, and Cherokee. Seismic data is being used not only to image structure, but to determine reservoir quality and fluid barriers and pathways such as fractures. The recent coalbed methane activity in eastern Kansas has lead to increased discoveries of Cherokee and Mississippian oil reservoirs. Technology innovations on the horizon include horizontal drilling and CO_2-enhanced oil recovery.

Natural Gas—Kansas has produced almost 39 trillion cubic feet (Tcf) since the first reported production in 1889 (Figure 3). Kansas gas production is dominated by the Hugoton and Panoma gas fields of southwest Kansas, which produce more than two-thirds of the state's natural gas. Production declines of 30–20 billion cubic feet (Bcf) per year in these two fields have dominated production trends. However, the magnitude of declines in the Hugoton and Panoma fields has begun to decrease.

In contrast to the declining production in the Hugoton and Panoma fields in southwest Kansas, natural gas in southeast Kansas (primarily coalbed methane) has continued to increase (Figures 4–5). The rapid increase in unconventional gas production from coalbed and organic shale has just begun and should accelerate.

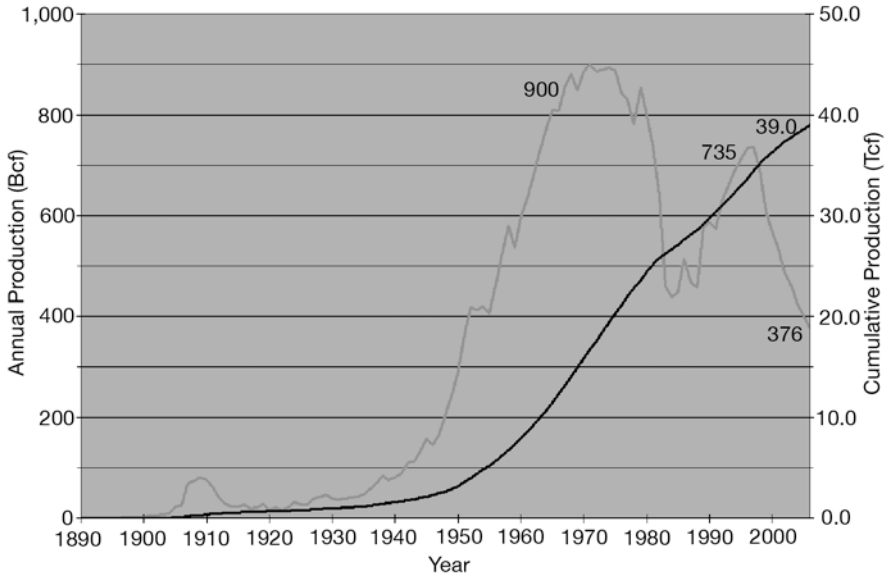


Figure 3—Kansas annual and cumulative reported gas production from 1889 until 2005. Cumulative production is estimated at 39 trillion cubic feet (Tcf). The highest annual production of 900 billion cubic feet (Bcf) was reported in 1970. A second peak of 735 Bcf was achieved in 1995. Production in 2005 is estimated at 376 Bcf.

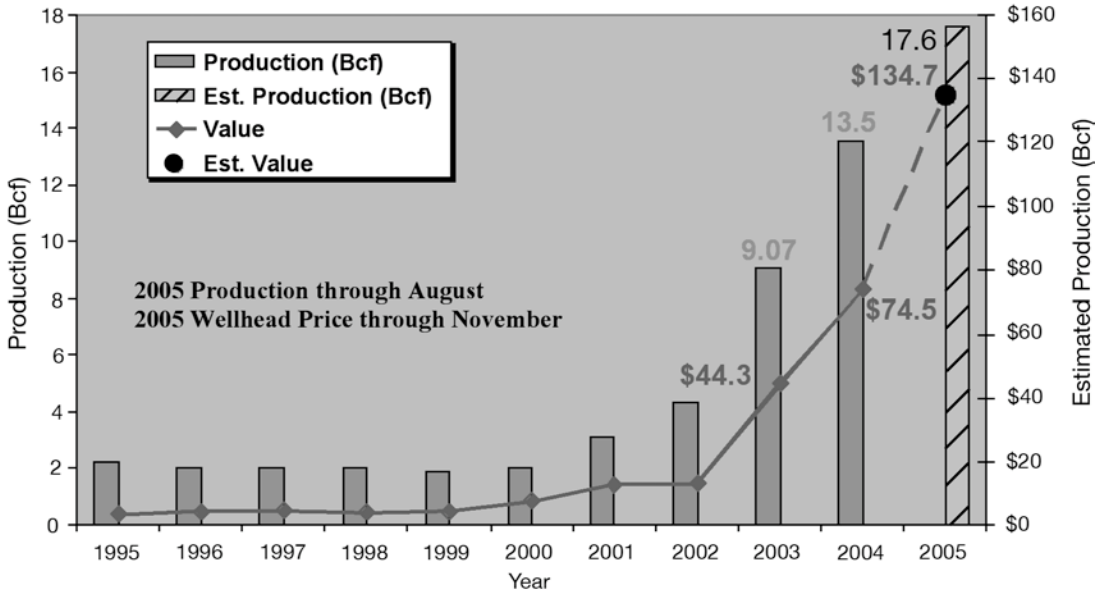


Figure 4—Gas production and wellhead value from four counties in southeast Kansas (Montgomery, Wilson, Neosho and Labette). All the increase in gas production can be attributed to gas production from coal beds and organic shale.

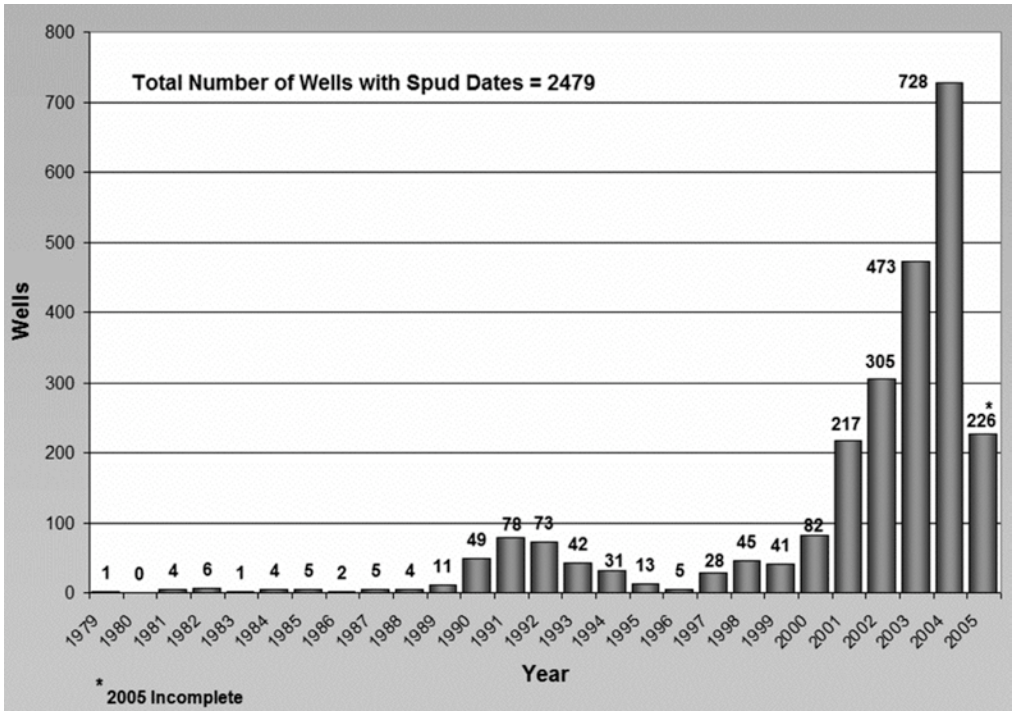


Figure 5—Wells drilled for coalbed methane have increased significantly from 2000 to 2005. Data for the current year are very incomplete, and activity should approach levels of 2004.

The high price of natural gas has increased interest in exploration and development. However, as with oil, the poor state of the industry's physical infrastructure and limited number of personnel have inhibited the rate of increase. In the Hugoton and Panoma fields, companies are moving to modify field rules and have begun to target specific intervals that have not been adequately produced. Shallow, low-Btu natural gas is an increasingly popular target. With the high prices, low-Btu gas can be mixed or processed to bring it up to pipeline specifications. Production of unconventional gas is beginning to spread westward with attempts to produce gas from the Chattanooga Shale and other organic-rich intervals. Fracture technology is being applied to increase gas production in the Mississippian of south-central Kansas. Horizontal or high-angle drilling in the Hugoton and Panoma fields to increase production rates and contact undrained intervals is on the horizon.

In 2005, the value at the wellhead of the state's oil and gas production will be over $4.6 billion, as compared to $3.5 billion in 2004 and $2.1 billion in 2002. With this huge increase in value (over 100% since 2002), the petroleum industry is showing some of the fastest increases in gross value of any of the state's industries.

The direct contribution of the oil and gas industry to the state's tax base in fiscal 2005 will be significant. Severance taxes are estimated at $122 million, and ad valorum taxes on minerals are estimated at $186 million. Indirect taxes on income to employees, corporate profits, purchase of equipment, and royalties paid will be even greater; owners of oil and gas royalties in Kansas are expected to receive more than $500 million by the end of 2005.

Refineries—In October, National Cooperative Refinery Association (NCRA), after three years of planning, design, permitting and construction, completed a $300 million Clean Fuels project at its McPherson refinery. This was the largest investment in the refinery's history.

The Clean Fuels project brings the 85,000 barrels-per-day central Kansas refinery into compliance with federal environmental requirements for producing ultra-low sulfur fuels, more than one-half year ahead of a June 2006 deadline. The pending regulations requires U.S. refiners to reduce sulfur levels in diesel fuel from 500 parts per million to 15 parts per million.

To meet the ultra-low sulfur requirements, NCRA constructed a state-of-the-art unicracker, a new hydrogen plant, and additional sulfur handling capacity; it also made modifications to existing process units. The Clean Fuels project, for the most part, is a stay-in-business capital expenditure and will not provide additional output of gasoline or diesel fuel. NCRA was the first of three Kansas petroleum refineries to announce compliance with the federal regulations.

Wind Energy

Wind energy continued to make the news in Kansas in 2005. With the October 2004 renewal of the Federal Production Tax Credit through December 2005 (later extended through December 2007), the state saw considerable activity and interest in wind energy. Figure 6 shows the current proposed and existing wind energy projects in Kansas.

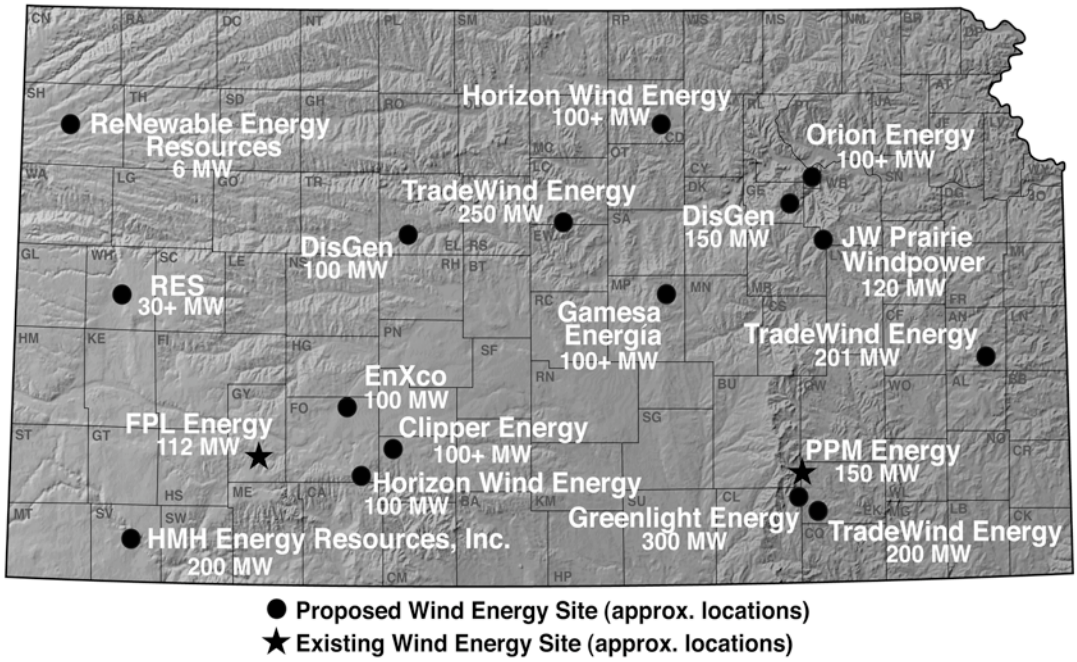


Figure 6—Existing and proposed wind farms in Kansas, as of December 2005. It was recently announced that the 100-MW EnXco project in Ford County will be constructed in 2006 and owned by KCP&L.

The biggest wind-energy development in Kansas in 2005 was the construction of the 150-Megawatt (MW) Elk River wind farm in Butler County, near Beaumont. This wind farm . brought the state's total commercial wind capacity to 263 MW. This project was initially developed by HMH Energy Resources, Inc., of Larkspur, California, and Greenlight Energy of Charlottesville, Virginia. In 2004 the project was sold to PPM Energy of Portland, Oregon, a subsidiary of ScottishPower of the United Kingdom. PPM constructed the wind farm and will continue to own it, and Empire District electric utility of Joplin, Missouri, is purchasing the power. The Elk River wind farm consists of 100 General Electric 1.5-MW wind turbines, the first of which came on-line in October 2005, with all turbines spinning by mid-December.

KCP&L, an electric utility with the majority of its service territory in the Kansas City area, issued a Request for Proposals (RFP) for 100 MW of renewable energy by the end of 2006. In December, KCP&L announced that the wind developer EnXco, of North Palm Springs, California, would develop and construct a 100.5-MW wind farm near Spearville in Ford County. KCP&L will own and operate the wind farm, which is planned to be on-line by October 2006.

Interest in wind-generated electricity was not limited to the eastern half of the state. In August, Fort Hays State University expressed an interest in buying wind power for their campus.[1] The city of Goodland contracted with a local energy-developer to buy 3 MW of locally produced wind power,[2] while a group of Sherman County irrigators expressed interest in producing 6 MW of wind power with the same firm.[3] In Dodge City, USD 443 investigated installing a wind turbine to provide electricity to district schools.[4] The Kansas-Smith farms in Meade County announced plans to install two 120-kilowatt (kW) wind turbines to power the farms.[5]

The controversy about wind-energy development in the Flint Hills continued in 2005, with several unsuccessful lawsuits against the Elk River wind farm. A project in McPherson County also drew controversy even before it was officially proposed. The County Commission spent many meetings dealing with the issue and eventually passed a six-month moratorium in August[6] and zoning regulations for wind-energy development in November.[7]

The KEC, working with other interested groups, sought to develop expertise and investigate policies to promote development of smaller wind projects with local ownership. This Community Wind initiative included a tour of multiple project sites in southwestern Minnesota to determine best practices. In a letter to the KEC, Governor Sebelius directed the KEC to con-

[1] Corn, M., 2005, FHSU looks into wind farm, Hays Daily News, August 15, 2005.
[2] Betz, T., 2005, Goodland Contracts for wind power, Goodland Star-News, February 25, 2005.
[3] Burke, K., 2005, Wind towers to generate power, Goodland Star-News, February 18, 2005.
[4] Gerber, R. A., 2005, School Board discusses ideas to cut energy costs, Dodge City Globe, November 15, 2005.
[5] Vandenack, T., 2005, Farmers want to take advantage of the wind, Hutchinson News, May 18, 2005.
[6] Tschudin, C., 2005, County OKs proposal for 6-month moratorium on wind turbines, McPherson Sentinel, August 17, 2005.
[7] Snell, K., 2005, County OKs zoning rules to regulate establishment of wind farms in Mac County, McPherson Sentinel, November 9, 2005.

tinue ongoing efforts to identify barriers and develop effective responses to help local communities benefit from wind projects.

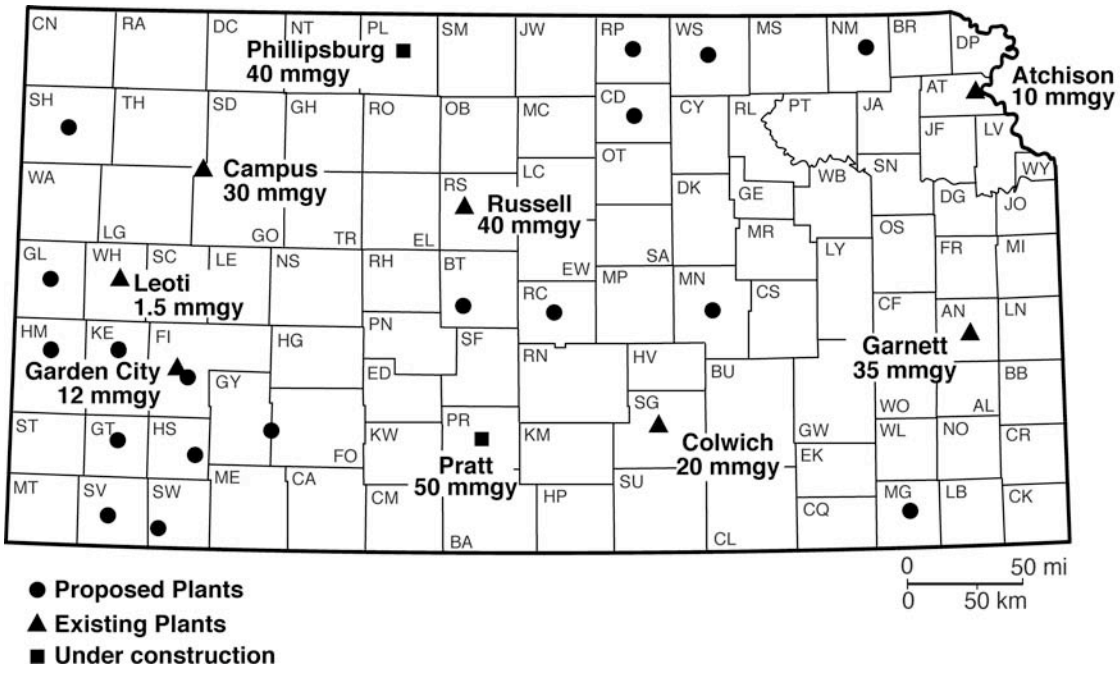
Ethanol

The production and use of ethanol in Kansas continued to increase during 2005. New ethanol plants were built, planned, and discussed, while demand for the fuel was higher than ever.

The East Kansas Agri-Energy (EKAE) ethanol plant in Garnett began producing ethanol in the summer. The capacity of EKAE is 35 million gallons per year (mmgy), bringing Kansas ethanol capacity to nearly 170 mmgy at seven facilities. Two more ethanol plants broke ground in 2005: the Prairie Horizon Agri-Energy (PHAE) ethanol plant in Phillipsburg (40 mmgy capacity) and the Wildcat Bioenergy LLC ethanol plant in Pratt (50 mmgy). Both expect to begin producing ethanol in 2006.

Many other communities are in various stages of planning for new ethanol plants. Some of these include Dodge City, Goodland, Lakin, and Lyons, as well as Grant, Hamilton, Haskell, Kearny, Meade, Nemaha, Reno, Republic, Seward, Stevens, and Washington counties. Figure 7 shows many of the existing and proposed ethanol plants in Kansas.

In 2005, ten gas stations in nine cities began selling E85, a motor fuel blend of 85% ethanol and 15% gasoline, considered an alternative fuel by the U.S. Department of Energy. Plans for E85 availability at up to 20 more stations are currently in the works.[8]



[8] Kansas Ethanol, 2005, E85 fuel for flexible fuel vehicles: http://www.ksgrains.com/ethanol/e85.html (November 2005).

Figure 7—Kansas ethanol plants that are proposed, under construction, or in operation, as of November 2005. Production capacity is noted in million gallons per year (mmgy).

Demand for ethanol sharply increased in 2005. One factor was the passage of Senate Bill 56 (based on the 2004 KEC recommendation) to no longer mandate labels on gasoline containing ethanol). Another factor, of course, was the spike in gasoline prices, which made the price of E10 gasoline (gasoline blends with 10% ethanol) as much as 10¢/gallon cheaper than non-ethanol blends. Ethanol demand in the months of June and July was up more than 700% from 2004, while for the year it may be up as much as 200% to 300%.[9] The combination of the price discrepancy and the removal of the mandatory labels allowed retailers to easily switch between fuels that did and did not contain ethanol, selling whichever was least expensive.

Utilities

The past year saw new developments for the state's electric utilities, including plans for construction of new power plants and the sale of assets (Figure 8).

Aquila announced that it will sell its electric operations in Kansas to the six cooperatives that own Sunflower Electric Power.[10] The cooperatives include Lane-Scott in Dighton, Prairie Land in Norton, Pioneer in Ulysses, Victory in Dodge City, Western in WaKeeney, and Wheatland in Scott City. The six cooperatives formed the Mid-Kansas Electric Company, which will take control of service for the 65,440 customers and six electric generation facilities in Aquila's operations. Aquila also sold operations in Missouri and Wisconsin totaling $897 million to reduce debt and other liabilities.[11]

Sunflower Electric announced it would add two 600-MW coal units to its Holcomb power plant, which will be sold to Tristate Generation and Transmission Association based in Westminster, Colorado.[12] New 345-kV transmission lines will be built to connect the new Holcomb generation units to the Western electric grid in Colorado.

Westar announced plans to build a 600-MW coal plant by 2012 or 2013,[13] and two natural-gas units that would add a total capacity of 150 to 200 MW by 2008.[14] The location of these plants has not been decided and at least seven counties are vying to host the coal plant, including Bourbon, Crawford, Franklin, Labette, Marion, Reno, and Sedgwick counties.

Kansas City Power & Light (KCP&L) announced plans to build a 900-MW coal plant adjacent to the existing Iatan power plant along the Missouri River in Missouri. They had considered a location near Atchison, Kansas, as well. Along with the new coal plant, which was ap-

[9] Kansas ethanol sales jump thanks to new law, Newton Kansan, November 10, 2005.
[10] Everly, S., 2005, Aquila shedding four utilities, The Kansas City Star, September 22, 2005.
[11] Corn, M., 2005, Purchase doubles size of cooperatives, Hays Daily News, September 22, 2005.
[12] Corn, M., 2005, Sunflower Electric expanding in Holcomb, Hays Daily News, August 11, 2005.Milburn, J., 2005, Kansas to get plants, but not power, Wichita Eagle, August 12, 2005.
[13] Everly, S., 2005, Westar foresees need for new plant, The Kansas City Star, May 19, 2005.
[14] Milburn, J., 2005, Kansas to get plants, but not power, Wichita Eagle, August 12, 2005.

proved by the Kansas Corporation Commission[15] and its Missouri counterpart,[16] KCP&L issued an RFP to build 100 MW of wind power. The KCP&L project established a precedent by obtaining pre-determination of the project's costs from both Missouri regulators and the KCC. The intent is to provide greater certainty to the financial markets that KCP&L will be able to recover its costs in building the plant, thus allowing them to obtain lower-cost funds and eventually keep down the costs passed along to consumers.

The Kansas City (KS) Board of Public Utilities (BPU) announced in July that they were considering adding another coal plant to their fleet. The new unit would likely be built in 2012 and located close to the Nearman Creek Power Plant.[17]

A group of local citizens along with a local energy developer announced they planned to build the Goodland Energy Center. This will consist of a 20- to 25-mmgy ethanol plant, a biodiesel plant, and a 25-MW coal plant. The electricity will be sold to the city of Goodland, while waste products from some of the processes will be used as co-generation with other units. Both the coal and ethanol plants were previously used in Minnesota and have been dismantled and shipped to Goodland.[18]

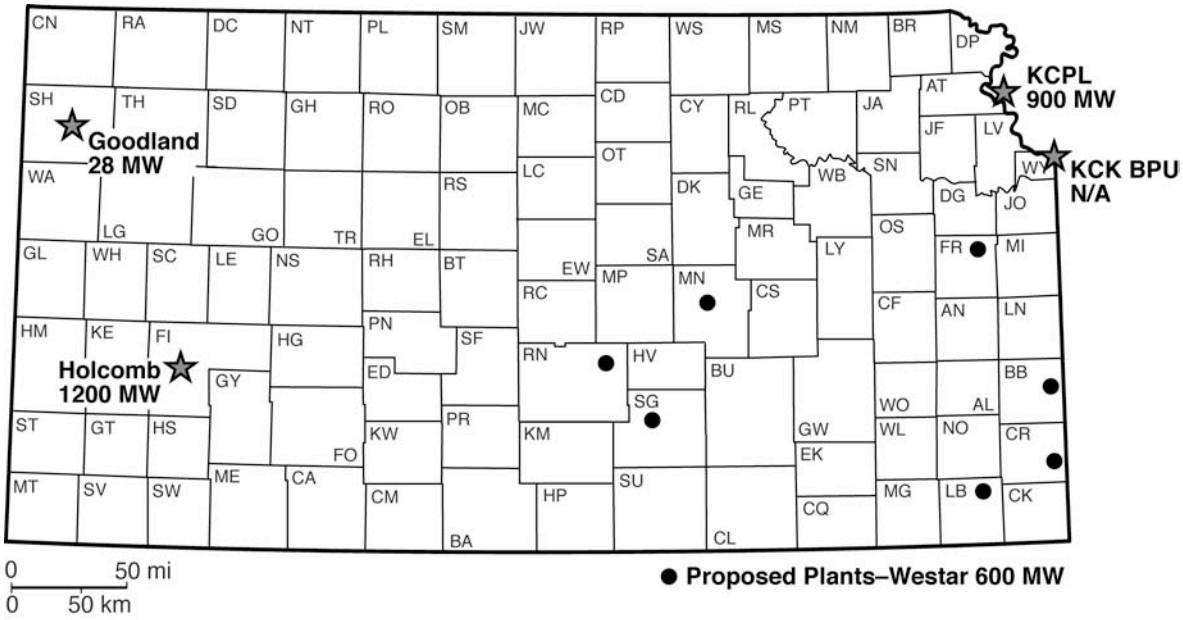


Figure 8—Approximate locations for proposed coal plants. Note that only one of the seven proposed locations for the Westar coal plant will be chosen.

Kansas Electric Transmission Authority

In April, the Governor signed House Bill 2263 into law, which created the Kansas Electric Transmission Authority (KETA). This body will consist of seven members, including the

[15] Margolies, D., 2005, Kansas regulators back KCP&L project, The Kansas City Star, August 6, 2005.
[16] Everly, S., 2005, Missouri OKs new KCP&L power plant, The Kansas City Star, July 29, 2005.
[17] Shuman, M., 2005, BPU considers new coal plant, Kansas City Kansan, July 29, 2005.
[18] Burke, K., 2005, Investors announce plan to build three energy plants, Goodland Star-News, July 8, 2005.

chairs of the House and Senate utility committees, the committees' ranking minority members, and three appointees of the governor. The Authority will have the power to construct new and upgrade existing transmission lines and provide for the recovery of costs. The first meeting of KETA was held in September and the Governor's appointees were announced in November.

Select Joint Committee on Energy
The Kansas Legislature formed a Select Joint Committee on Energy, charged with reviewing the current status of Kansas energy policy, including a review of energy production, distribution, and pricing within the state, with an emphasis on energy fuels.

The Committee also will study the possibility of creating an entity to develop long-term energy policy (Appendix 5). The first committee hearings were set for December 14–15, 2005. In 2002, the Legislature rejected a proposal for a state energy policy entity, resulting in the creation of the State Energy Resources Coordinating Council (SERCC) by Executive Order. SERCC was reconstituted as the Kansas Energy Council in 2004, again by Executive Order.

Results of the 2005 Legislative Session

KEC Recommended Bills

The Kansas Energy Council recommended four pieces of legislation in the *Kansas Energy Report 2005.* All four were introduced in the 2005 legislative session, and one passed.

KEC Budget

The Governor's budget for FY06 recommended $150,000 for KEC operations, from funds collected by the Kansas Corporation Commission. The Legislature approved $100,000, providing the KEC with some additional funds to increase its capacity to analyze and study energy issues.

For the FY07 budget year, the Council is requesting $250,000, of which $150,000 would cover Council operations and staff support, and $100,000 would finance external contracts to expand and enhance the ongoing research efforts of the Council.

SB56
An act to remove the mandatory labeling for 10% ethanol mixtures at the gas pump (rescinding Subsection b of Kansas Statute No. 79-340, which required that retail gasoline pumps with ethanol blends be labeled) was passed by the Legislature and signed into law. According to the Kansas Department of Revenue, compared to the same time period a year earlier, the amount of ethanol sold in Kansas increased by more than a factor of seven after SB56 was signed. See previous discussion of ethanol in Kansas (p. 13).

SB284
An act providing for the issuance of bonds by the Kansas Development Finance Authority for Kansas energy projects. This bill was heard by the Senate Commerce Committee, but no action was taken. The Sierra Club formally opposed the bill, arguing that it would allow fossil fuel and nuclear energy projects to be funded by the proposed bonds.

SB251
An act to provide a production tax credit for renewable energy. This was replaced by SB280, which was proposed by Governor Sebelius. **SB280** provides a production tax credit for renewable energy if the federal tax credit expires, and to provide a smaller PTC for "community wind" projects (credits would not apply in the Heart of the Flint Hills region). The bill was heard by the Senate Committee on Assessment and Taxation, no action was taken, and the bill was held over for consideration during the 2006 Legislative Session.

HB2104
An act to amend Article 9 of the Uniform Commercial Code to restore a priority creditor status for sellers of oil and gas production when a purchaser is in bankruptcy. Such an amendment would follow the language of the former K.S.A. 84-9-319, which was repealed in 2000. This bill passed the House, 123–0, but stalled in the Senate Judiciary Committee.

KEC Activities and Developments in 2005

Kansas Energy Planning Process

At its May 19 meeting, the KEC authorized the first steps in developing a plan on how Kansas can best coordinate the state's energy resources to benefit the long-term economic and employment health of the state. The Council voted unanimously to adopt a planning process similar to the one used to develop the State Water Plan (see Framework Kansas Energy Planning Process, Appendix 6).

The Council identified the following core priorities:

- To ensure a low-cost, reliable and secure energy supply,
- To increase energy conservation and efficiency,
- To extend the life of existing energy resources, and
- To develop a balanced renewable energy policy.

The KEC, as the energy planning body for the state, is responsible for compiling the plan. Several State agencies cooperate with the KEC. The agencies include the Department of Agriculture, Kansas Geological Survey, Department of Commerce, Department of Wildlife and Parks, Kansas Water Office, and Kansas Corporation Commission.

PILTs for Wind Energy

KEC proposed clarifying the legality of negotiations and discussions between wind energy developers and local governments regarding voluntary payments for wind projects. The need for such clarification stemmed from a 2004 district court ruling in Butler County, Kansas, in which the judge ruled that the offer of a voluntary payment in lieu of taxes (PILT) to the county by the developers of the Elk River wind project while the zoning request was under consideration, could give the appearance that the voluntary payment was a condition of approval of the project. The court found that "it would create a dangerous precedent to permit an applicant to make a promise of something beyond the natural benefits which will or might occur in the event that rezoning occurs" (Butler County District Court Case No. 03 C 82).The

county re-voted to adopt the zoning decision, without the PILT offer. Wind developers and county officials are reluctant to negotiate PILTs anywhere in the state, until there is clarification of when and under what circumstances, such negotiations are proper and legal.

After discussion with legislators, staff, and others, the issue was referred to state legal counsel for review. The analysis by legal staff in the Department of Administration was that there is no clear-cut answer. They wrote, "Without a statutory process authorizing such payments, or on point case law stating that such discussions at any particular point during the process does not violate due process/fairness and is reasonable, any discussion or execution of these voluntary payments may be deemed inappropriate in a court of law."

Before the KEC decided what steps to take, the legal opinion was discussed with the Kansas Association of Counties policy committee and staff. KEC staff suggested three options: (1) pursue legislation that would create a statute clarifying when and under what circumstances voluntary PILTs could be negotiated, (2) establish state guidelines for a standardized PILT, or (3) impose a statewide production tax on wind energy that would be returned to the local jurisdiction.

The Association policy decision was to pursue option 1, legislation that would allow counties and wind developers to negotiate voluntary PILTs. The Kansas Energy Council considered this, and adopted a policy recommendation for 2006 (see p. 33) endorsing this approach.

Cooperation with EPA on MOU

The Council voted to pursue development of a model Memorandum of Understanding (MOU) with the U.S. Environmental Protection Agency (EPA) to better resolve issues between the agency and the downstream petroleum industry (e.g., refining, distribution, and marketing). This follows a successful MOU developed in recent years between EPA and the states to address areas of mutual concern in the "upstream" (exploration and production) end of the petroleum industry, through the offices of the Interstate Oil and Gas Compact Commission (IOGCC).

The idea was presented to the Kansas Department of Health and Environment to assess whether their national professional organization, the Environmental Council of the States (ECOS), would be interested in playing a role similar to that of the IOGCC. KDHE has not reported back to the KEC yet on possible further steps.

New Chair and Membership Changes

Governor Kathleen Sebelius appointed Colin Hansen as Chair of the Kansas Energy Council, effective October 17, 2005, to replace Lee Allison, who had served as chair of the Council since its formation in 2003. Allison, who continued to staff the Council through December, resigned in order to focus more on his role as the Governor's science and energy policy advisor. Hansen represents municipal utility interests on the Council.

Dr. Tim Carr, with the Kansas Geological Survey, at the University of Kansas, was designated to represent the State Geologist on the Council, replacing Allison, the previous designee.

David Phelps, who represented investor-owned electric utilities, resigned from the Council, effective December 1, 2005. Donna Johnson, who represents renewable electricity industry on the Council, submitted her resignation, effective December 31, 2005. The KEC was also saddened by the death of Spencer Depew on December 15, 2005; Depew represented natural gas producers on the Council. New members are expected to be named by the Governor in early 2006.

Special Projects

The KEC was established to develop a comprehensive energy plan, presented in an annual report to the Governor, Legislature, and Corporation Commission. However, both the Governor and the Legislature repeatedly turn to the Council to assess and report on specific energy issues. In the absence of a broadly based energy agency in state government, the Council has been tasked to fill that void. Brief summaries of special projects requested of the Council are described below.

Community Wind

Early in 2005, leadership from The Kansas Energy Council, Kansas Farm Bureau, and the Governor's Rural Life Task Force began meeting to discuss Community Wind. Their objectives were to (1) develop an understanding of Community Wind, (2) identify and monitor projects in other states, and (3) develop appropriate strategies if Community Wind was determined to be a realistic fit for Kansas.

A primary goal of Community Wind projects is for the majority of dollars invested in and resulting from electricity sales to stay in the area and produce direct benefits to the community. Proponents of Community Wind—while not necessarily objecting to large developments—typically note that most benefits from larger wind farms go outside the region (aside from a small workforce and lease payments to individual landowners). They further note that these projects frequently generate less controversy because local residents see the economic development and other benefits to their region, including strengthened communities, clean sources of electricity, and involvement in a new and growing industry.

A Community Wind project can be described as commercial wind energy project that can have power distributed locally or sold as part of a power purchase agreement and features local ownership; the majority of owners/investors are members of the community, and they have a financial stake in the project coupled with a commitment to see direct and positive local economic impacts.

States active in developing Community Wind include: Iowa, Minnesota, Montana, Oregon, and Wisconsin. Of these five states, four have Renewable Portfolio Standards (RPS); only Oregon does not have an RPS, but has a public benefits charge to fund renewable energy projects.

Most of the growth in Community Wind has been in Minnesota. Minnesota is considered the model for developing community wind projects: in 2003 the state added 286 Megawatts (MW) of wind power, bringing the state total to 562.7 MW; an increasing number of projects were locally owned Community Wind developments.[19] In Minnesota and other states, policies to assist development include revolving loan funds and low-interest rate programs, direct grants, state tax credits on production, net metering, direct set asides for Community Wind projects, and production incentive payments.

The Prairie Island agreement allowed Excel (then Northern States Power) to store nuclear waste in Minnesota subject to the utility buying 425 MW of renewable energy. That was met in 2002 with 480MW under contract and increased to another 400MW by 2012.

A problem developed around the adequacy of existing transmission lines from Buffalo Ridge region to Minnesota population centers. The Minnesota Public Utilities Commission (PUC) gave Excel a certificate of need for four high voltage transmission lines. To insure the lines would carry renewable power the PUC mandated an additional 400 MW to be in place by 2006, and of that total, 60 MW (15%) would be from community wind. The mandate was increased another 300 MW by 2010 with 100 MW from community wind. The total renewable requirement by 2010 is 1,125 MW.

The state now has a renewable mandate for **all** utilities for a "good faith effort" to reach 1% of retail sales as renewable by 2005 and then increasing 1% per year through 2015.

After reviewing programs and activities unique to Community Wind, the Kansas planning group put together a tour of Minnesota Community Wind projects. Working with Windustry, Inc. in Minneapolis, the planning group developed a two-day tour of rural Minnesota sites with presentations and discussions with local community leaders, farmers, and wind developers. Invitations were extended and sixteen Kansans participated in a whirlwind 36-hour trip beginning August 30 that covered over 1,000 miles.

A key driver in developing the Minnesota wind industry was the Prairie Island agreement that created a market for renewable energy, principally wind (see box). Initially the mandate was met by large commercial wind development in the southwest corner of the state. As the area accumulated more experience with wind technology, smaller developments with local owners began to appear. Discussions during the field trip revealed that it took up to six years for the first local project to be installed, but once the model and know-how were in place, other communities, groups of local investors, and individual farmers developed projects.

Over time Minnesota has experimented with strategies to promote community projects, including production incentives specifically for smaller projects; a production tax that ratchets up for larger projects, and a strong education and promotion effort targeting local community projects.

[19] Anderson, Linda, 2004, "Community Wind Flourishes on Minnesota Farms," *North American Wind Power*, Volume 1, number 4 (May 2004), p. 1.

One of the more important observations made to and by trip participants was the recognition that each situation is unique and presents both expected and unanticipated challenges. In the face of these barriers the leaders of local wind in Minnesota through innovation, creativity and hard work overcame even the most complicated technical or financial issues. If Kansas desires local wind projects, it will need to have similar local leadership firmly resolved to take on all challenges.

A report on the trip was presented at the KEC October 20th meeting, leading to the KEC approval of a recommendation that "Kansas "aggressively pursue development of Community Wind projects." The report is available at the KEC website.[20]

In addition, the Rural Life Task Force and the Kansas Farm Bureau plan to make communities aware of these options and opportunities. Additionally, at the August KEC meeting, a representative from the Kansas office of the U.S. Department of Agriculture, Rural Development presented an overview of the renewable and energy efficiency grant/loan program. KEC plans to work with the USDA Kansas office to help promote and seek funding for local wind projects.

The KEC's interest and effort in developing a Community Wind strategy was endorsed by the Governor in a letter that noted "I [Governor Sebelius] see real potential for developing this approach to renewable energy in Kansas … please advise the Council members that I am requesting they initiate a process that will provide me advice on community wind energy policy in addition to conservation and efficiency."

Although Kansas does not have a mandated RPS, as fuel costs have increased, the value of having a fixed-price alternative for providing electricity and the independence of owning that power source is increasingly attractive to Kansas towns.

Utility Green Pricing Programs Report

A report on utility green pricing programs was submitted to and accepted by the Kansas Energy Council at the October meeting. This report was done at the request of Governor Sebelius, who asked the KEC to evaluate green pricing programs of utilities in nearby and surrounding states to determine what state policies could be enacted to encourage Kansas utilities to develop their own programs.

Green pricing is an optional utility program, that allows the consumer to support a greater level of utility development of renewable energy sources. Those consumers who participate pay a premium on their electric bill to go toward the additional costs of the renewable energy source. The amount of the premium varies from program to program.

This report looked at a number of regional green pricing programs (Table 1), as well as residential general use tariffs of those utilities and several Kansas utilities (Table 2). Total cost to the subscriber ranged form 0.50 to 3.33 cents per kWh. More details on the green pricing

[20] The report URL is http://www.kansasenergy.org/KEC/documents/KEC_report_communitywind_102005.pdf.

programs analyzed can be found in the bulk of the report at the KEC web site (**http://www.kansasenergy.org/KEC/KECmeetings.html**).

Table 1—Overview of Midwestern and Great Plains utility green pricing programs, 2005

Program Name	Utility	State	Renewable Energy Technology	Cost (¢/kWh)	Customer	Number of Subscribers
OG&E Wind Power	Oklahoma Gas & Elect.	OK	Wind	~0.74[21]		10,000
Windsource	Xcel Energy	CO	Wind	1.00[22]	All	
Windsource	Xcel Energy	MN	Wind	2.00	All	11,000
Renewable Advantage	MidAmerican Energy	IA	Wind	na.	All	3,200
Wind Power Program	Fort Collins Utility	CO	Wind	1.00		1,200
Second Nature	Alliant Energy	IA/MN/ WI	Wind	2.00	Residential	11,544
PECO wind	Exelon	PA	Wind	2.54	Consumer	
Wind Power	Madison Gas & Elect.	WI	Wind	3.33	Res./Biz.	
GreenChoice	Austin Energy	TX	Wind/ Landfill gas	0.504		

Although the programs have had varying degrees of success, all program managers noted that a successful, highly subscribed program required adequate marketing and consumer education about renewable energy . Being able to recover costs of such education programs through rates was also important to ensure utilities advertised the programs. Those utilities that could recover costs (OG&E, for example) had greater success than those that could not (e.g., MidAmerican Energy).

The report included the following recommendations, none of which were approved as part of 2006 KEC recommendations:

1. Kansas utilities are urged/required to offer a green-power program for their customers to purchase renewable energy. Programs and rates for subscriptions will require approval by the KCC. The goal is for utilities to target a 5% participation rate for which progress towards this goal will be reported annually to KCC. A mandate to create a green pricing program could possibly apply to utilities when they propose bringing new fossil-energy generation on-line.
2. Any policy should allow for, and be designed to enable the utility to advertise and provide educational materials about the program to their customers. Incentives can be given to utilities to succeed by allowing partial or full recovery of expenses based on success in meeting goals.

[21] The upfront rate is 2 cents/kWh. As of July 2005, the actual cost to the consumer was 0.74 cents/kWh with the fuel cost adjustment.
[22] The upfront rate is 2.5 cents/kWh. With the fuel cost adjustment, the rate is closer to 1 cent/kWh.

3. Income from subscriptions should go towards building or purchasing new renewable energy, rather than subsidizing existing sources.
4. A fuel cost adjustment should be considered for the customers, should the cost of renewable energy be cheaper than the existing load (i.e., depending on what fuel and cost of fuel the renewable energy replaces).
5. Require utilities to use green pricing revenues to purchase electricity from locally-owned, community-based projects (more than 50% ownership is local), when feasible. (With the right incentives, which bring down the cost of power from community-based projects, a mandate may not be necessary).
6. Any recommendation for utilities to set up a green pricing program would be strengthened if it were tied in with a requirement for State agencies to purchase renewable electricity. Such a requirement would set up the utility programs for success.

Table 2—Residential Summer Tariffs at select Midwest and Great Plains utilities, 2005

Utility	State	Base Rate (¢/kWh)	Other rates (¢/kWh)	Notes
OG&E	OK	6.76	4.46	Base: 1st 600 kWh/month
Xcel (NSP)	MN	7.589		June-September
Xcel (PSC)	CO	4.767		Residential General
MidAmerican Energy	IA	8.551		East System only; general use
MidAmerican Energy	IA	6.852		North System only; general use
MidAmerican Energy	IA	8.20		South System only; general use
Fort Collins Utilities	CO	6.36		All residential
Alliant Energy (IES)	IA	10.33	9.63	Base: 1st 500 kWh/month; Other: next 700 kWh
Alliant Energy (IPS)	IA	7.66		
Alliant Energy	WI	9.916		General Service
Exelon	PA	4.44	5.15	Base: 1st 500 kWh/month
Madison Gas & Elect.	WI	8.664		Electricity service
Austin Energy	TX	3.55	6.02	Base: 1st 500 kWh/month
Midwest Energy	KS	7.35		General use
Xcel	KS	6.64		General use
Aquila	KS	6.011		General use
Empire District	KS	6.78	6.75	Base: 1st 600 kWh
KCP&L	KS	7.36		All
Aquila	CO	7.08		All
Aquila	MO	6.64		General use, all kWh

State Use of Renewable Energy Report

A report on the potential use of renewable energy by state government was submitted to and accepted by the Kansas Energy Council at the meeting on October 20, 2005.[23] This report was done at the request of Governor Sebelius, who asked the KEC to evaluate the amount of electricity consumed by state government and evaluate the cost and impacts of the state acquiring certain percentages of this electricity from renewable sources.

A survey of state institutions was performed to determine the amount of electricity used by state agencies in Fiscal Year 2004 (FY04). These included buildings both owned and rented by state agencies and Regents institutions.

The analysis made the following assumptions:

- Most electricity from renewable energy in the near term in Kansas will come from wind energy.
- Wind energy capacity factors will average 35%.
- Renewable Energy Credits (RECs) for power produced in Kansas will cost about $5.00 per MWh (this is the price Aquila bid to the Kansas City branch of the Government Service Agency in 2004 for RECs from their purchase of wind energy from the FPL Montezuma wind farm).

Results from the survey determined that state-occupied facilities used an estimated 613,000 MWh of electricity in FY04. The Regents institutions used around 435,000 MWh, compared to 177,000 MWh by state agencies.

Assuming that the cost of RECs in Kansas is representative of the additional cost for electricity from renewable energy, the estimated cost to acquire varying amounts of state consumption, from 1% to 5%, is shown in Table 3. Costs are separated for Regents facilities and state agency facilities, either owned or leased.

Table 3—Comparison of the amount of renewable electricity, its cost to the state and the subsequent installed capacity if the state required purchase of 1% or 5% renewable energy for various state buildings.

Renewable Energy Use	All Buildings	State Agency Buildings (owned & leased)	State Agency Buildings (owned only)	University Buildings
1% electricity from renewables (kwh)	6,130,298	1,774,185	458,750	4,356,112
5% electricity from renewables (kwh)	30,651,489	8,870,927	2,293,752	21,780,562
1% installed Capacity (MW)	2.0	0.6	0.1	1.4
5% installed Capacity (MW)	10.0	2.9	0.7	7.1
Cost to state (1%)	$30,651	$8,871	$2,294	$21,781
Cost to state (5%)	$153,257	$44,355	$11,469	$108,903

[23] The complete report is available on the KEC web site (http://www.kansasenergy.org/KEC/documents/KEC_StateEnergyUseReport_102005.pdf).

The results show that given the stated assumptions, if all state owned and leased buildings, including Regent institutions, purchased renewable energy (or renewable energy credits) to provide 1% of electrical consumption, the total cost to the state would be $30,651 per year. A requirement of 5% renewables would cost five times that much.

The report included the following recommendations:

1. Issue an Executive Order, directing that the State of Kansas purchase a specified amount or percentage of electricity consumption, or the largest amount of electricity from renewable energy produced in Kansas that the state can afford.
2. The State purchase renewable energy electricity in blocks at the aggregate state level rather than agency-by-agency or facility-by-facility.
3. The State purchase renewable energy from new, community-based economic development renewable energy sources. Preference would be given to Kansas projects, or projects in other states that offer reciprocal access to their renewable energy markets.

Wind and Prairie Initiative

In January 2005, Governor Sebelius publicly outlined her policies and initiatives regarding the debate over wind-energy development and preservation of the Tallgrass Prairie in the Flint Hills region. The KEC's Wind and Prairie Task Force (WPTF) had submitted its report and recommendations to the Governor in June 2004. Governor Sebelius subsequently discussed the WPTF report with various stakeholders throughout the second half of 2004. She turned to the KEC to take the lead in implementing some components of the policy (see Appendix 7).

The Governor's vision for wind energy in Kansas included:

- Endorsing the KEC recommendations for wind energy. The Governor introduced her own legislation for a $.005 per kWh transparent, tradable state Production Tax Credit. The bill would have limited new incentives for wind-energy projects to areas outside the Heart of the Flint Hills.
- Calling for 1,000 MW of installed electric generation (equal to about 10% of current capacity), to be voluntarily produced from renewable resources in 10 years.
- Requesting the KEC to evaluate the impact of having State and Regent's facilities use 2.5–5% of electricity on average statewide from renewables; asking KCC to consider full range of benefits on utilities' use of renewable energy (see p. 25).
- Requesting the KEC to analyze utility programs to allow consumers to voluntarily purchase "green" power and how to support utilities to offer it (see p. 22).

In addition to articulating a broad vision for renewable energy in general and wind in particular, the Governor worked to assess the economic benefits and develop an action plan to promote tourism in the Flint Hills. Fermata, Inc. conducted the study that considered tourism and suggested where wind farm operations and other economic development would have positive potential for the Flint Hills. Particular emphasis was on eco- and agri-tourism as mechanisms that can lead to broader, more value-added economic activities. State and local governments expressed a commitment to making better use of the tourism opportunities provided by the Tallgrass Prairie National Preserve and other prairie resources. The Fermata report was released in fall 2005 and recommended what characteristics of the Flint Hills should

be protected from wind-energy development and what types of areas would be suitable for wind projects.

FutureGen Bid

FutureGen is a multi-year public/private funded effort to build a prototype zero-emissions coal plant. It would be the world's first emissions-free electric power coal plant, with a production capacity of 275 Megawatts (MW); a byproduct of the operation would be hydrogen and a component of its operations is to geologically sequester carbon dioxide (CO_2). Preliminary estimated total cost of FutureGen is $1 billion, with $750 million coming from the U.S. Department of Energy (DOE), and a private consortium, FutureGen Industrial Alliance, Inc., raising the $250 million balance.

In March 2004, the Kansas Energy Council convened a forum to discuss the FutureGen project as development and discussion was ongoing at the DOE. The outcome from that meeting was formation of the FutureGen Working Group to monitor progress and prepare to respond to the anticipated solicitation from DOE. Competition is expected to be intense for the project; Kansas is among 14 states that have notified DOE of their intent to prepare proposals.

Coal represents more than 85% of U.S. energy reserves and approximately 64% of global energy reserves. About 50% of U.S. electricity production is fueled by coal and 40% of world production. Coal use has increased more than five times faster than was projected, and coal production has outpaced nuclear, natural gas, oil, and renewable sources.

Probably three criteria will be most critical for states to pursue FutureGen, and Kansas is positioned well in all three: (1) convenient rail access, (2) experience and expertise in CO_2 sequestration, and (3) adequate and available water source. As part of the preparation, the KEC collaborated with the Kansas Development Finance Authority (KDFA) during the 2004 Legislative session to pass legislation giving KDFA the authority to issue bonds to finance any funding requirements of FutureGen.

In the Fall of 2005, representatives from Kansas and Missouri met to discuss their mutual interest in forming a multi-state regional team to respond to a FutureGen. The meeting was hosted by Midwest Research Institute, which expressed an interest in working with the state partnership and bringing in the hydrogen integration expertise at the National Renewable Energy Laboratory run by MRI in partnership with Battelle. Intra-state discussions are to occur through the end 2005 before a final decision is made regarding the possible collaborative submission.

In December, the FutureGen Industrial Alliance announced that it had reached and formally entered into the cooperative agreement with DOE to develop and site coal-fueled power plant. As signed, the agreement commits the Alliance and DOE to all development aspects of the $1 billion FutureGen project, including siting, technology selection, construction, and operation. The Alliance and DOE schedule calls for initiating the site selection process in 2006, beginning construction within three years and targeting plant operations for 2012. The first siting phase is projected to cost $10.2 million.

Dr. Charles Goodman, Chair of the FutureGen Alliance, in announcing the agreement in December 2005, noted: "The prototype will prove the best technology and economic path for commercialization while addressing environmental concerns associated with the large-scale use of coal for U.S. and global energy needs. The robust use of coal will ensure a better life for current and future generations."[24]

Other Activities

KEC staff, along with help from other individuals in Kansas State government, compiled a report on existing incentives for energy-related economic development in the State. This report includes both existing specific state statutes and generalized business incentives for all energy industries in Kansas. Staff also began work on a summary of energy programs in State agencies.

Energy Forecasts

Consumption Forecasts

Kansas consumed 1,159 trillion BTU of primary energy in 2002, the last year of data from the U.S. Department of Energy, Energy Information Administration (Figure 9). This was up 2.5% from the previous year's energy consumption (1,129 trillion BTU). Since then, however, the price of petroleum and natural gas have increased considerably and it is anticipated that the higher prices will lead to greater conservation by consumers.

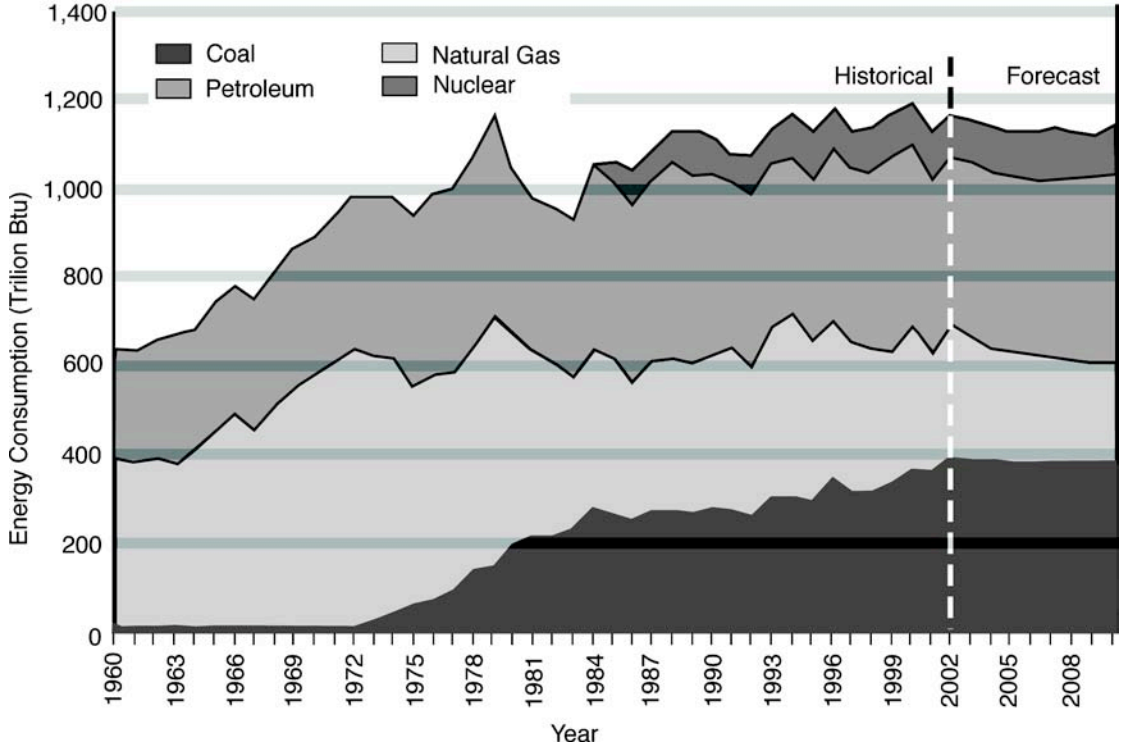


Figure 9—Kansas primary energy consumption, 1960 to 2002, with projections to 2010 (2002 is the last year of complete consumption data from the U.S. EIA).

[24] Revkin, Andrew C., Pact Signed for Prototype of Coal Plant, New York Times, December 7, 2005.

Kansas primary energy consumption is expected to decrease annually by between 0.75% and 1.5% over the next several years and increase again by 2010. Primary energy consumption (in trillion BTU) in 2006, 2008 and 2010 is forecast to be 1,119, 1,116, and 1,135, respectively.

Petroleum
Total petroleum consumption is expected to increase annually by 1.2% to 1.4% between 2005 and 2010 (see Appendix 3, Table A1). During this period, consumption of several petroleum products is predicted to decrease, including gasoline (0.2% annually), distillate/diesel fuel (0.6% annually), and lubricants (0.5%). The consumption of other petroleum products is expected to increase: aviation jet fuel (5.6% annually), liquid petroleum gas (LPG) (5.0%), asphalt (2.3%), residual fuel (2.1%), aviation gasoline (0.2%), and kerosene (0.1%).

Kansas petroleum consumption was 71,272 thousand barrels in 2002, the last year of data available from the U.S. EIA. For the years 2006, 2008, and 2010, petroleum consumption is estimated to be 77,201 thousand barrels, 79,114 thousand barrels, and 81,237 thousand barrels, respectively.

Natural Gas
Natural gas prices, already high from the previous year, have skyrocketed to record levels. In the near term, this has reduced expected gas consumption by 17% from last year's estimates (see Appendix 3, Table A2). In 2006, 2007, and 2010, the state's consumption of natural gas is projected to be 246, 241, 233 billion cubic feet, respectively.

Electricity
Electricity consumption growth projections have only changed slightly from last year's forecast (see Appendix 3, Table A3). While electricity is receiving a relative cost advantage as a competitive fuel source compared to natural gas, it is becoming more expensive as generation fuel prices (including natural gas) become more expensive. Kansas electricity consumption is projected to be 40,564, 41,581, and 44,791, respectively.

Coal
Coal consumption is expected to remain steady through 2010. In 2004, Kansas consumed 22,342 thousand short tons of coal. It is expected that coal consumption will remain steady over the forecast period. No new coal plants will come on-line before 2010 and coal-fired power plants will continue to run at a high level. For the years 2006, 2008, and 2010, coal consumption is predicted to be 22,004, 21, 955, and 21,906 thousand short tons, respectively.

Production Forecasts

Energy production in Kansas is expected to decrease slightly over the next 5 years (Figure 10). In 2003, the last year with complete production data, the state produced 730 trillion BTU of energy. For the years 2006, 2008, and 2010, Kansas energy production is estimated to be 668, 641, and 608 trillion BTU, respectively. This is about a 3% decline annually, with most of that due to declining natural gas production (see discussion below).

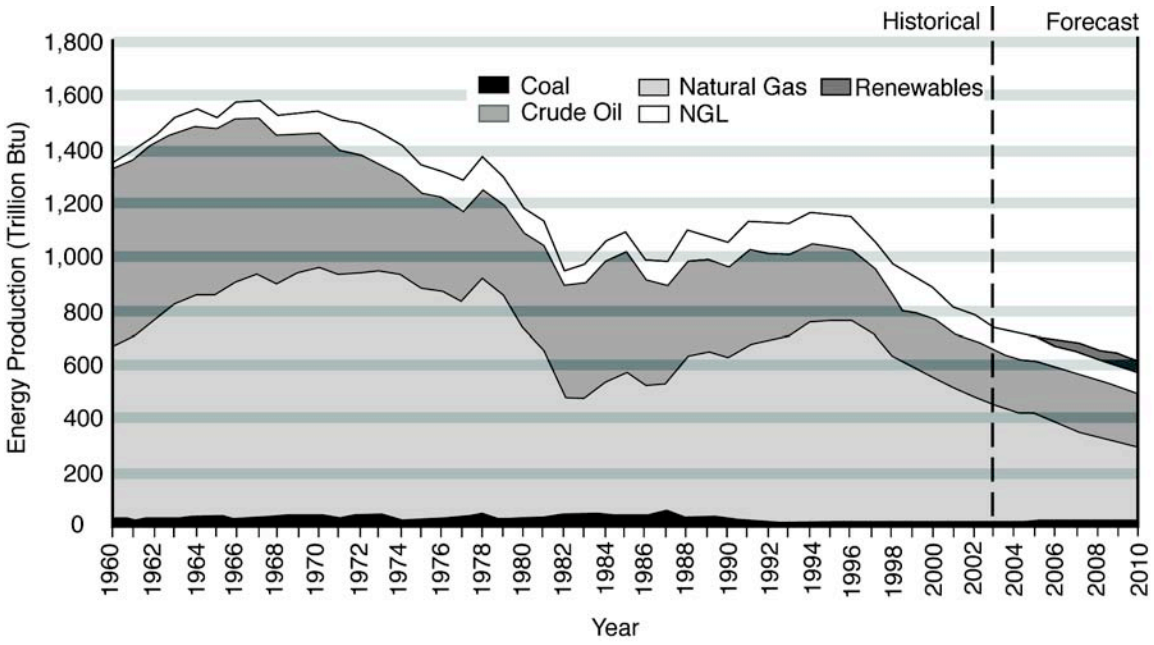


Figure 10—Kansas primary energy production, 1960 to 2003, with projections to 2010. Renewables includes ethanol, wind, and hydroelectric, as well as other renewable energy sources (2003 is the last year of complete production data from the U.S. EIA and other sources).

Oil

Based on monthly oil production reported through August 2005, the annual production for 2005 is estimated at 33.64 million barrels. This represents a small decline (less than 0.5%) from the 33.86 million barrels produced during calendar 2004. The monthly production data through the first eight months of 2005 suggest a trend of small monthly production increases. If this trend holds up through the remainder of 2005, annual production would approach or exceed 2004 production. Either way, 2005 oil production will be between 33.6 and 33.9 million barrels. This year continues the steady to even slightly increasing trend in monthly oil production that has persisted since January 1999. It appears that as long as oil prices remain high, oil production in Kansas will remain steady to slightly increasing. For 2005, Kansas oil production is estimated to have a value of $1.77 billion, a significant increase from the 2004 estimated wellhead value of $1.30 billion.

Natural Gas

Monthly natural gas production reported through August 2005 was used to estimate an annual production of 376 billion cubic feet (Bcf) for 2005. This represents a decline (less than 6.25%) from the 401 Bcf produced during calendar 2004 and continues the steady annual decline rates of five to six percent. To date, the elevated price of natural gas has not affected production in Kansas. However, the relatively stable monthly production for the first part of 2005 may indicate that gas production has stabilized. For 2005, Kansas natural gas production is estimated to have a value of $2.82 billion, significantly higher than the 2004 estimated wellhead value of $2.20 billion.

Electricity

Electricity generation is expected to continue to increase over the next five years (Figure 11). Total generation is predicted to increase from 46.9 million MWh in 2004 to 52 million MWh in 2006, 54.6 million MWh in 2008, and 57.2 million MWh in 2010. During this time period, coal generation is expected to be flat, as no new capacity will come on-line during this time (though several coal plants are expected to come on-line after 2010). The coal forecast was flat based on the average of the previous three years of data (2002–2004). No new nuclear power is expected to come on-line, so the forecast for coming years is based on averages of recent years. However, since Kansas only nuclear plant, Wolf Creek, goes down for maintenance once every 18 months, the years when it does not shut down (non-outage years) produce more electricity than outage years.

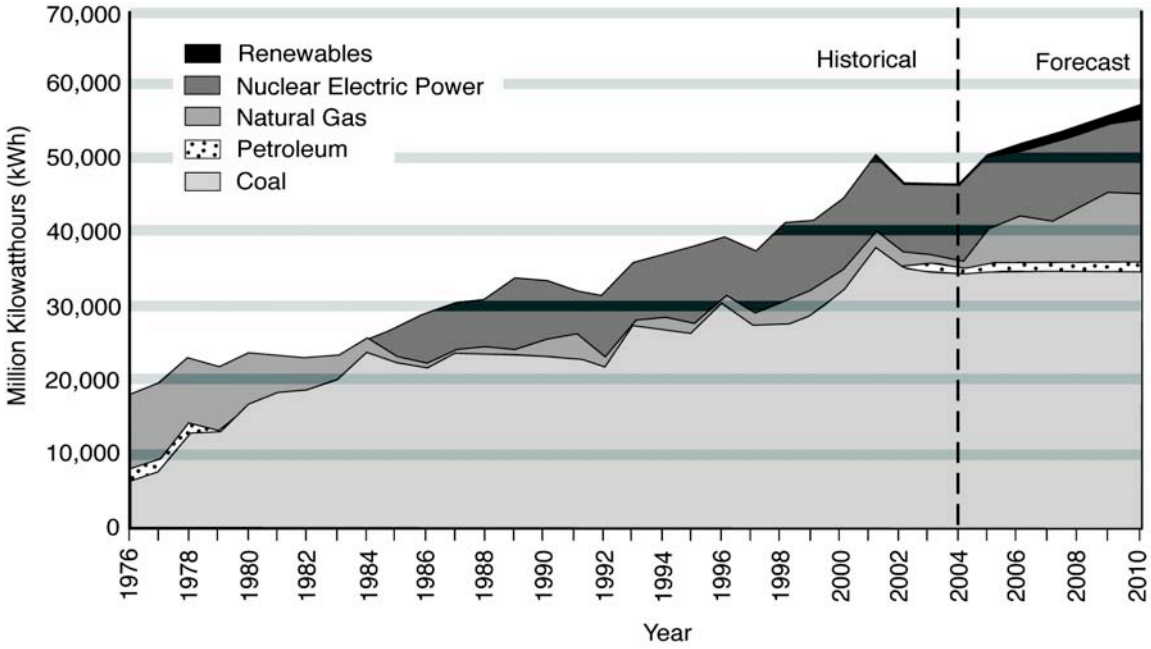


Figure 11—Kansas electrical generation, 1960 to 2004, with projections to 2010 (2004 is the last year of complete generation data from the U.S. EIA).

Electricity generation from petroleum is expected to hold steady (based on an average of the previous two years of data: 2003 and 2004). Similarly, hydroelectric power is expected to remain steady (based on an average of several previous years).

Generation from wind power is expected to grow. Electrical generation from wind is forecast to be (in million MWh), 0.806, 1.236, and 1.297 for the years 2006, 2008, and 2010, respectively.

Natural gas is assumed to make up the difference between total generation and the sum of other fuels. This leads to gas-fired generation increasing tenfold between 2004 and 2010. If other baseload units, such as Iatan II come on-line before the end of 2010, gas-fired generation will be reduced, but this is not expected.

Ethanol
One new ethanol plant, the 35 million gallon per year (mmgy) East Kansas Agri-Energy (EKAE) ethanol plant in Garnett, came on-line during 2005. This brings Kansas ethanol capacity to around 170 mmgy. Two new plants are expected to be on-line by the end of 2006, bringing Kansas ethanol capacity to 260 mmgy. It is further expected that with new plants and expansion at existing plants, capacity in Kansas will grow to 400 mmgy in 2008 and 500 mmgy in 2010.

Wind and Hydropower
Kansas wind capacity will be at 263 MW by the end of 2005. The 150-MW Elk River wind farm came on-line in phases between October and December. It is forecast that capacity will grow by 100.5 MW in 2006 to 363 MW when the Spearville wind facility comes on-line. The 30-MW Sunflower Electric Power wind farm in western Kansas is expected on-line in 2007, raising Kansas wind capacity to 393 MW. While it is possible that other large wind farms could be built between 2008 and 2010, no local utilities have announced plans to buy more wind and without other mandates, no large wind farms are expected to come on-line during this period. Up to 10 MW of new smaller Community Wind projects are expected to come on-line annually from 2008 to 2010, leading to wind capacities of 403 and 423 MW for 2008 and 2010, respectively. Based on a 35% capacity factor and adjusting for the time of year these projects are expected to start producing electricity, the electrical generation forecast in Kansas from wind for 2006, 2008, and 2010, is 806,000 MWh, 1,236,000 MWh, and 1,297,000 MWh, respectively.

Hydroelectric power is expected to remain steady over the next five years, with the annual electricity produced from hydropower estimated to equal the previous six-year average of 12,724 MWh in 2006, 2008, and 2010.

Recommendations Approved by the KEC for 2006

Overview

The Council's recommendations for 2006 include items that require action by the legislative or executive branch of state government, as well as activities that the KEC itself will pursue.

Most of the actions were initially developed in the KEC Standing Committees (see Appendix 2) and brought forward as committee recommendations to the full Council. Recommendations were approved by majority vote. Except where noted otherwise, the recommendations were approved unanimously.

Legislative Action

1. Amend Article 9 of the Uniform Commercial Code to restore a priority creditor status for sellers of oil and gas production when a purchaser is in bankruptcy. Such an amendment would follow the language of the former K.S.A. 84-9-319, which was repealed in 2000. *[approved 13 to 4, with 4 abstentions]*

2. Amend legislation to include an assistance program to help retail petroleum marketers more effectively comply with new federal regulations for Spill Prevention, Control and Countermeasures, to ensure that rural farm and commercial markets continue to have petroleum products available. It is estimated that the cost of compliance for small businesses may be high enough that some marketers will not be able to maintain their current array of petroleum products for local communities. The loss of regional supply sources for a given petroleum product could significantly impact local agricultural and commercial businesses. *[approved 19 to 0, with 2 abstentions]*
3. Legalize negotiations of payments in lieu of taxes (PILTs) between wind developers and counties after permitting has been granted in zoned counties. Furthermore, the Council recommends the Attorney General or other legal counsel be asked for legal clarification on when and how such negotiations can take place in counties without zoning regulations and in unzoned counties that have zoned cities or communities. *[approved 14 to 1, with 5 abstentions]*
4. Adopt a production tax credit for new renewable energy facilities or expansions of existing facilities, including wind, hydro, solar, and biomass up to and including 20 MW in size. Such a tax credit should have language similar to that of the Oklahoma tax credit (see Appendix 8), which has passed muster with the Internal Revenue Service. *[approved 16 to 0, with 3 abstentions]*
5. Endow and facilitate a revolving low-interest loan program to make energy-efficient upgrades (including renewable energy projects) in residential homes and small commercial businesses.
6. Provide tax or other incentive benefits to landlords when they bring rental properties to minimum energy efficiency standards, in recognition of the fact that rental properties are often some of the least energy efficient housing units.
7. Increase spending on current energy-related technical assistance and public education efforts that promote the efficient utilization of all energy resources.

Executive Action

1. Develop a comprehensive Community Wind Support System for aggressively pursuing development of Community Wind (locally owned, commercially scaled) projects, which show great potential economic benefit for local communities and the state as a whole. These efforts should be primarily enabling mechanisms to encourage initiatives from within local communities with local leadership and should include but not be limited to (1) educational activities and support from professionals—engineers, bankers, lawyers, grant writers, siting consultants, and others with expertise in developing Community Wind—to help communities move from no knowledge to turbines spinning, (2) creation of an ongoing revolving loan fund and/or loan guarantees from a State bonding pool that would encourage local financing, and (3) assistance in identifying and writing grants for Federal (especially USDA 9006 grants) and other grants available for Community Wind projects. The Kansas Departments of Commerce, Agriculture, and Wildlife & Parks, Kansas State Extension, Kansas Corporation Commission, Kansas Energy Office and the Governor's Rural Life Task Force should be active participants in this initiative.

2. Set energy-efficiency goals for State agencies to reduce energy use by 10%, based on the average of the last three years, by the end of Fiscal Year 2007, where practical and cost effective.
3. Require the use of energy efficient vehicles in the State fleet when cost-effective and appropriate for their intended use.
4. Formalize the State's pursuit of Federal funding for energy-related projects by charging the appropriate State agencies to assist individuals, small businesses, and communities in obtaining Federal grants.
5. Require all State agencies to purchase Energy Star appliances or equipment, where appropriate and cost-effective, when acquiring new energy-using products or replacing existing equipment.

KEC Action

1. Investigate Minnesota's newly created Community Based Energy Development (C-BED) program to determine its potential application to Kansas; recommend whether C-BED or a similar program should be enacted and how it might impact Community Wind development in the state. A report to KEC should be completed by August 1, 2006. *[approved 18 to 0, with 1 abstention]*
2. Investigate an energy-efficiency program similar to Efficiency Vermont. Such a program would be dedicated to reducing load and helping individuals, businesses, and industries use less energy. A report with a recommendation to the KEC should be completed no later than August 1, 2006.
3. Work to be better informed and develop closer working ties with House and Senate energy-related committees to more effectively develop and implement state energy policy.

Appendix 1—Executive Order 2004-05

WHEREAS, article 1 §3 of the Constitution of the State of Kansas vests the supreme power of the state in the Governor; and

WHEREAS, energy production is one of the core foundations of our state's economy; and

WHEREAS, the production of energy benefits the long term economic and employment health of the state; and

WHEREAS, the formation of public policy is dependent upon accurate and timely information being made available to Kansas policy makers; and

WHEREAS, improved coordination of the state's energy resources is an essential element in improving the quality of services provided to the people of Kansas; and

WHEREAS, policies to encourage renewable energy and energy efficiency, and to extend the life of existing energy resources are required for Kansas to regain its status as an energy exporter and for Kansas' energy future; and

WHEREAS, surrounding states have taken steps to promote or mandate the use of renewable energy resources; and

WHEREAS, after decades of standing as a net energy exporter, Kansas has now become a net importer of energy; and

WHEREAS, Kansas has been ranked first among all states in harnessable renewable energy resources; and

WHEREAS, it is the goal to help ensure that Kansans have low cost, reliable and sustainable energy, produced in-state, to the fullest extent possible;

NOW THEREFORE, pursuant to the authority vested in me as Governor of the State of Kansas, I hereby reformulate the composition and mission of the State Energy Resources Coordination Council, from hereafter to be known as the Kansas Energy Council ("Council"), as summarized below.

1. The Council shall collect and compile information pertaining to the energy resources, including wind and biomass, in the state, as well as the availability, production and use of energy in the state;
2. Based on such data, the Council shall formulate and coordinate a comprehensive state energy plan that includes strategies to:
   a. Ensure a low-cost, reliable and sustainable energy supply;
   b. Increase energy efficiency and conservation;
   c. Develop a balanced renewable energy policy that promotes our state's renewable and alternative energy resources and preserves those natural ecosystems and places of scenic beauty that cannot be replaced;
   d. Extend the life of existing energy resources;
   e. Enhance energy related research and development; and
   f. Ensure an adequate and stable state energy infrastructure.
3. Such a state plan shall include sections corresponding with:
   a. Estimates of energy consumption by Kansas residents for the next 12,, 36 and 60 months by energy category; and
   b. Estimates of energy production by energy source for the next 12, 36, and 60 months by energy category.
4. The Council shall annually review and modify as necessary the state energy plan.
5. The Council shall advise of trends identified in relation to energy production, consumption and any tax or revenue implications.
6. The Council shall recommend:
   a. Appropriate means to increase the productive life of Kansas energy resources;

b. Appropriate means to increase the state's self-reliance on its own energy sources through:
    i. Increased efficiency in the use of its resources,
    ii. Identification of potential energy resources, and
    iii. Identification of policy and tax issues that positively or adversely impact self-reliance;
c. Ways to avoid loss of tax revenues and employment opportunities related to energy resource management;
d. Policies to increase the export of energy from Kansas;
e. Policies to encourage renewable energy development;
f. Policies to encourage energy efficiency; and
g. Such other policies or actions related to energy resource management as may be identified.

7. The Council shall study the state's transmission needs for electrical energy.
8. The Council shall determine ways to encourage energy-related production, research and development, and other energy-related economic development in the state.
9. The Council shall annually report their findings and recommendations to the Kansas Corporation Commission, the Governor and the Legislature no later than January 15th.
10. The Council shall consist of 23 members as follows:
    a. The state geologist, or designee;
    b. The chairperson of the Kansas Corporation Commission, or designee;
    c. The consumer counsel of the Citizens' Utility Ratepayer Board, or designee;
    d. 20 appointments by the Governor, including:
        i. An energy economist serving on the faculty of a state educational institution;
        ii. An individual knowledgeable in energy efficiency and conservation;
        iii. An individual knowledgeable in tax and revenue issues related to energy use or production;
        iv. An individual knowledgeable in energy production issues as they relate to agriculture;
        v. An individual knowledgeable in environmental issues related to energy use and production;
        vi. An individual knowledgeable in renewable energy resources;
        vii. A representative of oil producers;
        viii. A representative of natural gas producers;
        ix. A representative of refiners of petroleum products;
        x. A representative of marketers of petroleum products;
        xi. A representative of investor-owned generators of electricity;
        xii. A representative of rural electric cooperatives;
        xiii. A representative of municipally owned or operated electric utilities;
        xiv. A representative of generators of electricity from renewable energy resources;
        xv. A representative of Kansas Association of Counties;
        xvi. A representative of the League of Kansas Municipalities;
        xvii. The Secretary of Commerce, or designee;
        xviii. The Director of the Water Office, or designee;
        xix. The Secretary of Wildlife and Parks, or designee; and
        xx. The Secretary of Agriculture, or designee.
    e. Of the members first appointed by the Governor subsequent to this order, five shall serve terms of four years, five shall serve terms of three years and

six shall serve terms of two years, and thereafter, terms shall be for four years;

f. All other members shall serve terms consistent with their terms of office, employment or appointment.

11. The Governor shall annually select a chairperson and vice-chairperson from among the members. The Council may elect other officers among its members and may establish any committees deemed necessary to discharge its responsibilities.

12. Members of the Council shall not receive compensation, subsistence, allowance or associated expenses. Officers or employees of state agencies who are appointed to the Council as part of their duties shall be authorized to participate on the Council and may claim subsistence, allowance, mileage or associated expenses as permitted by law.

This order supercedes Executive Order No. 02-04. This document shall be filed with the Secretary of State as Executive Order No. 04-05, and shall become effective immediately.

Appendix 2—KEC Members, Committees, and Staff

KEC Members

Name	Represents on KEC	Address	Phone/Fax	Email
Colin M. Hansen	Municipal Electric Utilities	623 S. Walnut McPherson, KS 67460	620-241-1423 620-241-7829	chansen@kmunet.org
Richard Anderson	League of Kansas Municipalities	1461 Briarwood Lane McPherson, KS 67460	620-245-2531 620-245-2529-fax	rick@mcphcity-bpu.com
Tim Carr	State Geologist Designee	KGS1930 Constant Ave University of Kansas Lawrence, KS 6047-3726	785-864-2135	tcarr@kgs.ku.edu
Patricia A. Clark	Secretary of Commerce Designee	1000 SW Jackson Suite 100 Topeka, KS 66612-1354	785-296-5253 785-296-3776-fax	pclark@kansascommerce.com
David M. Dayvault	Energy Tax and Revenue Specialist	Abercrombie Energy LLC 150 N. Main St, Suite 801 Wichita, KS 67202	316-262-1841 316-262-6694	ddayvault@ abercrombiegroup.com
Sarah Dean	Energy and Environmental Issues	1835 Republic Rd. Lawrence, KS 66044	785-749-3256	sdeanks@aol.com
Spencer L. Depew*	Natural Gas Producers	6322 E. English Wichita, KS 6218	316-265-9621 316-265-3819-fax	spencer@depewgillen.com
Stephen M. Dillard	Oil Producers	240 Penrose Dr. Wichita, KS 68206	316-262-8427 316-262-0893-fax	sdillard@pickrelldrig.com
Mike Hayden	Secretary of Wildlife and Parks	5809 Sagamore Ct. Lawrence, KS 66047	785-296-2281 785-296-6375-fax	mike.hayden@wp.state.ks.us
Donna A. Johnson*	Electricity from Renewables	1373 Stone Creek Dr. Lawrence, KS 66049	785-832-8866 785-749-9214-fax	donnaj@pinnaclet.com
Gregory P. Krissek	Energy and Agriculture	1362 N. Hickory Creek St. Wichita, KS 67235	316-616-3532 316-616-3793-fax	Greg.Krissek@ UnitedBioEnergy.com
Stuart S. Lowry	Electric Cooperatives	7332 SW 21st St. PO Box 4267 Topeka, KS 66604-0267	785-228-4610 785-478-4852-fax	slowry@kec.org
Galen B. Menard	Petroleum Refiners	1516 Trail West McPherson, KS 67460	620-241-2340 620-241-5562-fax	gmenard@ncrarefinery.com
Gene L. Merry	Association of Counties	700 Neosho St. Burlington, KS 66839	620-364-2615 620-364-3051-fax	gmerry@kans.com
Brian J. Moline KEC Vice Chair	Kansas Corporation Commission, Chair	2220 SW Knollwood Drive Topeka, KS 66611	785-271-3166 785-271-3354-fax	b.moline@kcc.state.ks.us j.potter@ kcc.state.ks.us
Richard G. Nelson	Renewable Energy Resources	2825 Lawrence Manhattan, KS 66502	785-532-4999 785-532-6952-fax	rnelson@ksu.edu
David R. Phelps*	Investor-owned Electric Utilities	800 Kansas Ave. Topeka, KS 66601	785-575-1612 785-575-8173-fax	dave_phelps@wr.com
Adrian J. Polansky	Secretary of Agriculture	109 SW 9th St., 4th Floor Topeka, KS 66612	785-296-3902 785-296-8389-fax	apolansky@kda.state.ks.us

Bruce Snead	Energy Efficiency and Conservation	810 Pierre St. Manhattan, KS 66502	785-532-6026 785-532-6952-fax	bsnead@oznet.ksu.edu
David R. Springe	Consumer Counsel, Citizens' Utility Ratepayer Board (CURB)	1500 SW Arrowhead Rd. Topeka, KS 66604	785-271-3239 785-271-3116-fax	d.springe@kcc.state.ks.us
Tracy D. Streeter	Director of State Water Office	901 S. Kansas Ave Topeka, KS 66612	785-296-3185 785-296-0878-fax	tstreeter@kwo.state.ks.us
Michael J. Volker	Energy Economist	504 West 40th St. Hays, KS 67601	785-625-1476 785-625-1484-fax	mvolker@mwenergy.com
Curt Wright	Petroleum Marketers	PO Box 93 Wellsville, KS 66092	785-883-2072	cawright78@earthlink.net

KEC Standing Committees in 2005

Executive Committee
Colin Hansen, chair
Brian Moline
Steve Dillard
Donna Johnson

Utilities Committee
Michael Volker, chair
Mike Hayden
Stuart Lowry
David Springe
Gene Merry
David Phelps*
Richard Anderson

Petroleum Committee
Steve Dillard, chair
David Dayvault
Spencer Depew*
Galen Menard
Curt Wright
Tracy Streeter

Renewable Energy Committee
Donna Johnson,* chair
Patricia Clark
Sarah Dean
Greg Krissek
Richard Nelson
Bruce Snead
Adrian Polansky

Energy Efficiency and Conservation Committee
Bruce Snead, chair
Paul Johnson
Joe King
Russ Rudy
Bill Griffith
Ron Dickey
Joe Heinen
George Powell

* *See membership changes, p. 21.*

KEC Staff Support in 2005

Lee Allison, Governor's Science and Energy Policy Advisor
Ernie Dominguez, Governor's Fellow
Scott White, Kansas Geological Survey
Jerry Lonergan, Plains Research Group

Kansas Geological Survey
Debbie Douglass
Jennifer Sims
Nick Callaghan
Jeremy Bartley
John Dunham
ShyAnne Mailen

Kansas Corporation Commission
Jim Ploger
Rosemary Foreman
John Cita
Larry Holloway
Alan Cell
Neal Barnhart

Appendix 3—Summary Tables for Consumption Forecasts

The consumption forecasts (Tables A1–A3) were developed in a three-step process. First, the historical annual growth rate was calculated, with outliers deleted throughout the data-filtering process to ensure stability. Second, the historical data were divided into a full (incorporating all available historical data) and truncated (using only recent consumption data) sample. More recent history is considered a better barometer for the future, especially considering some of the structural changes that have occurred recently in energy markets. Finally, the historical data were modeled and projected into the future. A number of statistical techniques were used, including both static (actual values) and dynamic (previously forecasted) models.

Table A1—Summary of Kansas petroleum products consumption, 1990 to 2001, with projections to 2018 (in thousands of barrels of oil equivalent). Historical production data (through 2001) are from U.S. Department of Energy, Energy Information Administration (http:www.eia.doe.gov/emeu/states/sep_use/pet/use_pet_ks.html). *Notes*—The average growth rate was computed from 22 observations of the annual data (1980–2001). Kerosene: to compute the annual average growth rate, the observation of year 1999 (360) was deleted as an outlier. The observations of the Distillate Fuel consumption were revised for 1984 through 2000 and of Residual Fuel were revised for 1989 through 2000. Asphalt: to compute annual average growth rate, the observation of year 2001 was treated as an outlier and deleted. Year 2000 data of Other Pet. Products was revised.

Year	Total Petroleum Products Consumption Forecast	Percent Change	LPG Consumption Forecast	Percent Change	Kerosene Consumption Forecast	Percent Change	Distillate Consumption Forecast	Percent Change	Gasoline Consumption Forecast	Percent Change	Residual Fuel Consumption Forecast	Percent Change
1990	77,702		15,565		27		16,697		28,627		229	
1991	71,152	-8.4%	13,293	-14.6%	25	-7.4%	15,624	-6.4%	28,041	-2.0%	128	-44.1%
1992	75,302	5.8%	16,816	26.5%	32	28.0%	14,895	-4.7%	27,821	-0.8%	178	39.1%
1993	67,099	-10.9%	8,269	-50.8%	37	15.6%	16,016	7.5%	28,480	2.4%	369	107.3%
1994	65,725	-2.0%	7,754	-6.2%	18	-51.4%	14,687	-8.3%	29,073	2.1%	187	-49.3%
1995	65,939	0.3%	4,924	-36.5%	29	61.1%	18,223	24.1%	29,402	1.1%	31	-83.4%
1996	72,912	10.6%	10,422	111.7%	37	27.6%	16,570	-9.1%	30,927	5.2%	289	832.3%
1997	75,567	3.6%	14,557	39.7%	59	59.5%	16,375	-1.2%	30,696	-0.7%	257	-11.1%
1998	75,831	0.3%	14,121	-3.0%	50	-15.3%	15,930	-2.7%	32,001	4.3%	269	4.7%
1999	86,287	13.8%	21,741	54.0%	36	-28.0%	15,660	-1.7%	33,550	4.8%	570	111.9%
2000	79,321	-8.1%	17,401	-20.0%	36	0.0%	14,849	-5.2%	31,894	-4.9%	937	64.4%
2001	73,907	-6.8%	11,122	-36.1%	41	13.9%	15,550	4.7%	30,297	-5.0%	1,301	38.8%
2002	71,282	-3.6%	10,659	-4.2%	31	-24.4%	16,359	5.2%	28,571	-5.7%	1,000	-23.1%
2003	74,657	4.7%	12,819	20.3%	30	-3.2%	15,375	-6.0%	30,193	-0.2%	1,021	2.1%
2004	75,477	1.1%	13,460	5.0%	30	0.1%	15,288	-0.6%	30,140	-0.2%	1,042	2.1%
2005	76,316	1.1%	14,133	5.0%	30	0.1%	15,202	-0.6%	30,089	-0.2%	1,064	2.1%
2006	77,201	1.2%	14,840	5.0%	30	0.1%	15,116	-0.6%	30,037	-0.2%	1,087	2.1%
2007	78,133	1.2%	15,582	5.0%	30	0.1%	15,030	-0.6%	29,985	-0.2%	1,110	2.1%
2008	79,114	1.3%	16,361	5.0%	30	0.1%	14,945	-0.6%	29,933	-0.2%	1,133	2.1%
2009	80,148	1.3%	17,179	5.0%	30	0.1%	14,861	-0.6%	29,881	-0.2%	1,157	2.1%
2010	81,237	1.4%	18,038	5.0%	30	0.1%	14,777	-0.6%	29,830	-0.2%	1,181	2.1%
2011	82,383	1.4%	18,940	5.0%	30	0.1%	14,693	-0.6%	29,778	-0.2%	1,206	2.1%
2012	83,590	1.5%	19,887	5.0%	30	0.1%	14,610	-0.6%	29,727	-0.2%	1,231	2.1%
2013	84,860	1.5%	20,881	5.0%	30	0.1%	14,528	-0.6%	29,676	-0.2%	1,257	2.1%
2014	86,196	1.6%	21,925	5.0%	30	0.1%	14,446	-0.6%	29,625	-0.2%	1,283	2.1%
2015	87,602	1.6%	23,021	5.0%	30	0.1%	14,364	-0.6%	29,574	-0.2%	1,310	2.1%
2016	89,081	1.7%	24,172	5.0%	30	0.1%	14,283	-0.6%	29,523	-0.2%	1,338	2.1%
2017	90,586	1.7%	25,381	5.0%	30	0.1%	14,202	-0.6%	29,472	-0.2%	1,366	2.1%
2018	92,115	1.7%	26,650	5.0%	30	0.1%	14,122	-0.6%	29,421	-0.2%	1,394	2.1%

Table A1, continued

Year	Lubricants Consumption Forecast	Percent Change	Asphalt Consumption Forecast	Percent Change	Aviation Gasoline Consumption Forecast	Percent Change	Aviation Jet Fuel Consumption Forecast	Percent Change	Other Pet Prods Consumption Forecast	Percent Change
1990	1,036		3,875		136		3,701		7,809	
1991	927	-10.5%	3,721	-4.0%	124	-8.8%	3,296	10.9%	5,973	-23.5%
1992	944	1.8%	3,715	-0.2%	142	14.5%	4,164	26.3%	6,595	10.4%
1993	962	1.9%	3,635	-2.2%	151	6.3%	3,617	-13.1%	5,563	-15.6%
1994	1,005	4.5%	4,741	30.4%	142	-6.0%	1,981	-45.2%	6,137	10.3%
1995	987	-1.8%	3,911	-17.5%	146	2.8%	2,414	21.9%	5,872	-4.3%
1996	959	-2.8%	3,581	-8.4%	177	21.2%	2,009	-16.8%	7,941	35.2%
1997	1,012	5.5%	2,115	-40.9%	247	39.5%	2,130	6.0%	8,119	2.2%
1998	1,061	4.8%	2,699	27.6%	199	-19.4%	2,157	1.3%	7,344	-9.5%
1999	1,071	0.9%	2,358	-12.6%	240	20.6%	3,476	61.1%	7,585	3.3%
2000	1,055	-1.5%	2,470	4.7%	215	-10.4%	3,234	-7.0%	7,230	-4.7%
2001	967	-8.3%	4,157	68.3%	196	-8.8%	2,259	-30.1%	8,017	10.9%
2002	955	-1.2%	3,767	-9.4%	127	-35.2%	2,135	-5.5%	7,678	-4.2%
2003	957	0.2%	3,442	-8.6%	172	35.4%	2,519	5.6%	8,130	5.9%
2004	951	-0.5%	3,521	2.3%	197	14.6%	2,660	5.6%	8,187	0.7%
2005	946	-0.5%	3,602	2.3%	198	0.2%	2,809	5.6%	8,244	0.7%
2006	941	-0.5%	3,685	2.3%	198	0.2%	2,966	5.6%	8,302	0.7%
2007	936	-0.5%	3,770	2.3%	198	0.2%	3,133	5.6%	8,360	0.7%
2008	931	-0.5%	3,856	2.3%	199	0.2%	3,308	5.6%	8,418	0.7%
2009	926	-0.5%	3,945	2.3%	199	0.2%	3,493	5.6%	8,477	0.7%
2010	921	-0.5%	4,036	2.3%	200	0.2%	3,689	5.6%	8,536	0.7%
2011	916	-0.5%	4,129	2.3%	200	0.2%	3,895	5.6%	8,596	0.7%
2012	911	-0.5%	4,224	2.3%	200	0.2%	4,114	5.6%	8,656	0.7%
2013	906	-0.5%	4,321	2.3%	201	0.2%	4,344	5.6%	8,717	0.7%
2014	901	-0.5%	4,420	2.3%	201	0.2%	4,587	5.6%	8,778	0.7%
2015	896	-0.5%	4,522	2.3%	202	0.2%	4,844	5.6%	8,839	0.7%
2016	891	-0.5%	4,626	2.3%	202	0.2%	5,115	5.6%	8,901	0.7%
2017	886	-0.5%	4,732	2.3%	202	0.2%	5,402	5.6%	8,964	0.7%
2018	881	-0.5%	4,841	2.3%	203	0.2%	5,704	5.6%	9,026	0.7%

Table A2—Summary of Kansas natural gas consumption, 1990 to 2003, with projections to 2018 (in thousand mcf). Historical production data (through 2001) are from U.S. Department of Energy, Energy Information Administration. *Notes*—Fuel consumption forecast includes fuel delivery losses, including lease fuel, pipeline fuel, and plant fuel. Fuel consumption was assumed to be a constant percent of the total end-use consumption throughout the forecast period.

Year	Kansas Total Gas Consumption Forecast	Percent Change	Residential Consumption Forecast	Percent Change	Commercial Consumption Forecast	Percent Change	Industrial Consumption Forecast	Percent Change	Utility Consumption Forecast	Percent Change	Fuel Consumption Forecast*	Percent Change
1990	352,779		71,327		56,045		116,915		26,978		81,514	
1991	370,557	5.0%	74,825	4.9%	58,571	4.5%	123,517	5.6%	36,122	33.9%	77,522	-4.9%
1992	343,217	-7.4%	71,522	-4.4%	53,973	-7.8%	130,807	5.9%	13,981	-61.3%	72,933	-5.9%
1993	391,605	14.1%	84,896	18.7%	56,023	3.8%	139,032	6.3%	21,636	54.7%	90,019	23.4%
1994	418,017	6.7%	74,156	-12.7%	52,253	-6.7%	187,979	35.2%	27,279	26.1%	76,350	-15.2%
1995	368,341	-11.9%	75,846	2.3%	53,122	1.7%	129,515	-31.1%	27,945	2.4%	81,914	7.3%
1996	362,964	-1.5%	85,376	12.6%	57,229	7.7%	110,294	-14.8%	22,607	-19.1%	87,458	6.8%
1997	339,196	-6.5%	69,415	-18.7%	41,483	-27.5%	115,552	4.8%	25,822	14.2%	86,921	-0.6%
1998	326,674	-3.7%	70,217	1.2%	41,788	0.7%	110,881	-4.0%	36,894	42.9%	66,894	-23.0%
1999	302,932	-7.3%	68,146	-2.9%	38,952	-6.8%	97,254	-12.3%	35,890	-2.7%	62,690	-6.3%
2000	312,369	3.1%	70,601	3.6%	40,297	3.5%	108,625	11.7%	33,509	-6.6%	59,338	-5.3%
2001	272,500	-12.8%	70,182	-0.6%	37,560	-6.8%	93,351	-14.1%	23,267	-30.6%	48,141	-18.9%
2002	304,993	11.9%	70,858	1.0%	38,752	3.2%	108,038	15.7%	21,389	-8.1%	65,956	37.0%
2003	281,346	-7.8%	70,540	-0.4%	37,875	-2.3%	103,998	-3.7%	15,711	-26.5%	53,223	2.5%
2004	256,463	-8.8%	64,116	-9.1%	35,888	-5.2%	90,154	-13.3%	20,142	28.2%	46,163	-13.3%
2005	251,334	-2.0%	62,834	-2.0%	34,772	-3.1%	88,712	-1.6%	19,776	-1.8%	45,240	-2.0%
2006	246,307	-2.0%	61,577	-2.0%	34,062	-2.0%	87,283	-1.6%	19,050	-3.7%	44,335	-2.0%
2007	241,381	-2.0%	60,345	-2.0%	33,211	-2.5%	85,076	-2.5%	19,300	1.3%	43,449	-2.0%
2008	236,553	-2.0%	59,138	-2.0%	32,173	-3.1%	83,331	-2.1%	19,331	0.2%	42,580	-2.0%
2009	231,823	-2.0%	60,274	1.9%	30,552	-5.0%	80,052	-3.9%	19,217	-0.6%	41,728	-2.0%
2010	232,750	0.4%	60,515	0.4%	30,662	0.4%	80,267	0.3%	19,411	1.0%	41,895	0.4
2011	233,681	0.4%	60,757	0.4%	32,085	4.6%	81,272	1.3%	19,841	2.2%	39,726	-5.2%
2012	234,616	0.4%	61,000	0.4%	31,946	-0.4%	81,717	0.5%	20,068	1.1%	39,885	0.4
2013	235,554	0.4%	61,244	0.4%	32,386	1.4%	82,193	0.6%	19,687	-1.9%	40,044	0.4
2014	236,497	0.4%	61,489	0.4%	32,634	0.8%	82,993	1.0%	19,176	-2.6%	40,204	0.4
2015	237,443	0.4%	61,735	0.4%	33,154	1.6%	83,379	0.5%	18,809	-1.9%	40,365	0.4
2016	238,392	0.4%	61,982	0.4%	33,246	0.3%	83,859	0.6%	18,779	-0.2%	40,527	0.4
2017	239,346	0.4%	64,623	4.3%	30,880	-7.1%	84,152	0.3%	19,002	1.2%	40,689	0.4
2018	240,303	0.4%	64,882	0.4%	30,909	0.1%	84,179	0.0%	19,482	2.5%	40,852	0.4

Table A3—Summary of Kansas electricity consumption, 1990 to 2002, with projections to 2017 (thousands of Megawatt hours). Historical production data (through 2002) are from U.S. Department of Energy, Energy Information Administration.

Year	Kansas Total Electric Consumption	Percent Change	Residential Consumption	Percent Change	Commercial Consumption	Percent Change	Industrial Consumption	Percent Change	Other Consumption	Percent Change
1990	27,149		9,515		9,169		8,087		378	
1991	28,152	3.7%	9,933	4.4%	9,551	4.2%	8,284	2.4%	384	1.7%
1992	27,069	-3.8%	8,873	-10.7%	9,400	-1.6%	8,451	2.0%	346	-10.0%
1993	28,808	6.4%	9,986	12.5%	9,753	3.8%	8.702	3.0%	367	6.0%
1994	29,614	2.8%	10,131	1.4%	10,111	3.7%	9,001	3.4%	371	1.3%
1995	30,357	2.5%	10,356	2.2%	10,273	1.6%	9,356	3.9%	372	0.1%
1996	31,291	3.1%	10,672	3.1%	11,005	7.1%	9,231	-1.3%	383	3.0%
1997	32,270	3.1%	10,862	1 .8%	11,424	3.8%	9,365	1.5%	618	61.5%
1998	34,140	5.8%	11,832	8.9%	12,073	5.7%	9,762	4.2%	473	-23.5%
1999	33,820	-0.9%	11,347	-4.1%	11,822	-2.1%	10,215	4.6%	436	-7.8%
2000	35,921	6.2%	12,528	10.4%	12,511	5.8%	10,222	0.1%	660	51.3%
2001	35,847	-0.2%	12,062	-3.7%	12,787	2.2%	10,569	3.4%	429	-35.0%
2002	36.713	2.4%	12,745	5.7%	13,392	4.7%	10,195	-3.5%	381	-11.2%
2003	37,665	2.6%	13,064	2.5%	13,815	3.2%	10,392	1.9%	393	3.3%
2004	38,607	2.5%	13,378	2.4%	14,229	3.0%	10,593	1.8%	406	3.1%
2005	39,573	2.5%	13,699	2.4%'	14,656	3.0%	10,798	1.8%	419	3.1%
2006	40,564	2.5%	14,028	2.4%	15,096	3.0%	11,007	1.8%	433	3.1%
2007	41,581	2.5%	14,364	2.4%	15,549	3.0%	11,220	1.8%	447	3.1%
2008	42,624	2.5%	14,709	2.4%'	16,015	3.0%	11,438	1.8%	462	3.1%
2009	43,694	2.5%	15,062	2.4%	16,496	3.0%	11,659	1.8%	477	3.1%
2010	44,791	2.5%	15,424	2.4%	16,991	3.0%	11,885	1.8%	492	3.1%
2011	45,885	2.4%	15,778	2.3%	17,483	2.9%	12,115	1.8%	508	3.1%
2012	47,006	2.4%	16,141	2.3%	17,990	2.9%	12,349	1.8%	525	3.1%
2013	48,155	2.4%	16,512	2.3%	18,512	2.9%	12,588	1.8%	542	3.1%
2014	49,333	2.4%	16,892	2.3%	19,049	2.9%	12,832	1.8%	560	3.1%
2015	50,540	2.4%	17,281	2.3%	29,601	2.9%	13,080	1.8%	578	3.1%
2016	51,778	2.4%	17,678	2.3%	20,170	2.9%	13,333	1.8%	597	3.1%
2017	53,028	2.4%	18,085	2.3%	20,755	2.9%	13,573	1.8%	615	3.1%
2018	54,302	2.4%	18,501	2.3%	21,357	2.9%	13,817	1.8%	643	3.1%

Appendix 4—Kansas Electric Transmission Authority

Prepared by the Kansas Legislative Research Division

HB 2263 enacts the Kansas Electric Transmission Authority Act creating the Kansas Electric Transmission Authority (Authority). The purpose of the Authority is to further ensure reliable operation of the integrated electrical transmission system, diversify and expand the state's economy, and facilitate the consumption of Kansas energy through improvements in the state's electric transmission infrastructure. The Authority will fulfill that purpose through building electric transmission facilities or by facilitating the construction, upgrade, and repair of third party transmission facilities.

The bill also enacts a new law authorizing the Kansas Corporation Commission (KCC) to approve inclusion in retail electric rates of regulated electric utilities, electric cooperatives, and municipal electric utilities costs associated with the construction or improvement of electric transmission facilities under certain circumstances. Costs covered by the bill are those incurred for construction or upgrading of electric lines with an operating voltage of at least 115 kilovolts. Electric 149 cooperatives and municipal electric utilities are subject to the jurisdiction of the KCC for implementation of the Act.

Finally, the bill amends prior law to authorize the KCC to determine the reasonableness of and regulate and supervise curtailment of service from a gas gathering system to an end-use customer.

Transmission Authority Governance

The Transmission Authority Board of Directors will be composed of seven voting members: three appointed to staggered four-year terms by the Governor, subject to Senate confirmation; and the chairpersons and ranking minority members of the House and Senate Utilities committees. The Governor's appointees must be qualified Kansas voters who possess special knowledge or have at least five years' managerial experience in the field of electric transmission or generation development. No more than two gubernatorial appointees may be members of the same political party. A member of the Board appointed by the Governor may be removed by the Governor for misfeasance, malfeasance, or willful neglect of duty, but only after reasonable notice and a public hearing is conducted in accordance with the provisions of the Kansas Administrative Procedure Act. Board members will be paid compensation ($35/day, or legislative pay), subsistence, expenses, and mileage as provided by statute for other state boards and commissions.

Transmission Authority Powers

In order to carry out the purposes of the Act, the Authority has broad, general authority including the ability to adopt rules and regulations. The Authority also may plan, finance, construct, develop, acquire, own, and dispose of transmission facilities. In addition to general authority to function as a public entity and to implement the Act, the Authority may contract for maintenance and operation of transmission facilities. The Authority cannot directly operate or maintain transmission facilities. The Authority will continue in existence until terminated by law.

Other specific powers of the Authority include the ability to enter into contracts with the Kansas Development Finance Authority (KDFA) which is authorized to issue bonds and provide financing for construction, upgrade, or repair of the Authority's transmission facilities and acquisition of right-of-way for those facilities. KDFA bond revenue also may be used to make loans to finance construction,

upgrade, or repair of transmission facilities owned by third parties and acquisition of right-of-way for those facilities.

Transmission facilities financed with KDFA-issued bonds need not be wholly located in Kansas if the majority of the cost of the project is for facilities located within the state and the KCC certifies that those portions of the project located outside the state will improve the reliability and security of the state's transmission system or will contribute to the long-term well being of Kansas.

The Authority will recover its costs through tariffs of the Southwest Power Pool (SPP) Regional Transmission Organization. If all costs are not recovered through SPP tariffs, the Authority will recover the remainder of its costs through assessments against utilities that benefit from Authority projects and that have retail customers in Kansas. Each utility's assessment will be based on its benefit from the project as determined by the KCC. Electric utilities will recover costs attributable to such assessments from their customers in a manner approved by the KCC, or, in the case of municipal and cooperative electric utilities, by their governing boards.

Transmission Authority Limitations

The Authority may exercise the rights and powers granted by the Act in regard to transmission infrastructure only:

If private entities are not meeting the need and are not willing to finance and own required new infrastructure; and

In regard to transmission facilities approved by the SPP.

The Authority is required to publish notice of its intent to provide facilities or services in the Kansas Register and a newspaper and trade magazine in the area where the service or facilities will be provided. Private entities will have three months to notify the Authority of their intention and ability to perform the acts, finance, and construct the facilities, or provide the service contemplated by the Authority. If no private entity expresses its intent to build the facility or provide the service, or if the private entity fails to begin the project within six months, the Authority may proceed with the project. If a private entity begins, but fails to make satisfactory progress toward completion of a project, the Authority may provide notice of its intent to complete the project and proceed to do so if no private entity expresses willingness to complete the project.

Transmission Authority Oversight and Regulation

The Authority is required to provide an annual report to the Governor and the Legislature. The report must include any audit of the Authority performed under the Act.

The Legislative Post Audit Committee may authorize financial compliance audits of the Authority. The cost of any post audit will be borne by the Authority.

The Authority is not supervised or subject to regulation by the KCC, except in regard to wire stringing and transmission line siting. In those instances, other existing statutes govern.

Transmission Authority Taxation

The Authority is not required to pay Kansas income tax and its purchases would be exempt from sales tax. The Authority's transmission facilities would be exempt from property tax to the extent they would be exempt if privately owned.

Transmission Authority Cooperation with State and Local Entities
State agencies and local units of government must provide information, assistance, and advice requested by the Authority. Those entities will be reimbursed by the Authority. State agencies and local governments also are authorized to lease, lend, grant, or convey land to the Authority without advertising or obtaining a court order for the transaction.

Transmission Authority State General Fund Loan
Any State General Fund financing provided by the Legislature to the Authority would be a loan to be repaid with interest in a single payment within ten years. Any such loan will not be considered an indebtedness of the state and would accrue interest at the statutory rate set for inactive state accounts.

Transmission Authority Open Meetings and Open Records Acts Exceptions
Exceptions to the Open Meetings and Open Records acts are provided to protect competitive positions of third parties and the security of transmission facilities. Those exceptions apply to:

Proprietary information obtained with a promise of confidentiality;
Information about the location of transmission facilities and related security measures; and
Information about transmission capacity or availability that is not generally available to all electricity market participants.

Other exemptions to the Open Meetings and Open Records Acts also are available to the Authority.

Transmission Authority Board Conflicts of Interest
Board members and staff are required to disclose in writing any interest in contracts or transactions with the Authority. No Authority member or staff with an interest in an Authority transaction may participate in authorization of the transaction.

Board members are required to file statements of substantial interest as required by Kansas' ethics laws. Employees, agents, and advisors of the Authority who have a substantial interest in contracts or transactions with the Authority also are required to file statements of substantial interest.

Recovery of Costs of Electric Transmission Facility Construction and Improvement
The bill authorizes the KCC to approve inclusion in retail electric rates of regulated electric utilities, electric cooperatives, and municipal electric utilities costs associated with the construction or improvement of electric transmission facilities under certain circumstances. Costs covered by the bill are those incurred for construction or upgrading of electric lines with an operating voltage of at least 115 kilovolts. Electric cooperatives and municipal electric utilities are subject to the jurisdiction of the KCC for implementation of the Act. The KCC is authorized to approve inclusion of the specified costs in retail utility rates if it finds:

That a regional transmission organization identified the construction or upgrade as appropriate for reliability of the electric transmission system or for economic benefit to transmission owners and customers; and
A state agency has determined that the project will provide measurable economic benefit to Kansas electric consumers that would exceed anticipated project costs.

The KCC is authorized to approve recovery of project costs in retail electric rates only if those costs are not otherwise being recovered. The KCC is authorized to consider the following when determining whether to approve inclusion of project costs in retail rates:

The speed with which electric consumers will benefit from the transmission facility;
The long-term benefits of the facility to Kansas electric customers; and
Whether those factors outweigh other less costly options.

Applications for cost recovery for projects covered by the Act must include information required by the KCC to enable it to make those determinations.

The KCC will be required to conduct an expedited review of any request filed pursuant to the Act if the application includes evidence that expedited construction or upgrade will provide significant, measurable economic benefit to Kansas electric consumers. Regional transmission organization recommendation or approval of a project covered by the Act creates a rebuttable presumption of the appropriateness of the project for system reliability or economic benefit.

Any project cost recovery authorized by the KCC pursuant to the Act must be assessed against all utilities that have customers in Kansas and that receive benefits from the project. Individual assessments will be based on benefits received by the utility from the project. In making its decision regarding benefit and cost allocation, the KCC may consider funding and cost recovery mechanisms developed by regional transmission organizations and is required to consider transmission users' payments approved by the Federal Energy Regulatory Commission or the regional transmission organization.

Appendix 5—Select Joint Committee on Energy

Senate
Sen. Jay Scott Emler, Vice-Chair
Sen. Janis Lee
Sen. Carolyn McGinn
Sen. Mark Taddiken

House
Rep. Tom Sloan, Chair
Rep. Joann Freeborn
Rep. Tom Hawk
Rep. Carl Holmes
Rep. Forrest Knox
Rep. Annie Kuether

Kansas Legislative Research Department
Mary Galligan, Raney Gilliland, Hank Avila

Revisor of Statutes Office
Bruce Kinzie, Mary Torrence

Topics
Purpose. The Select Committee on Energy is charged with reviewing the current status of Kansas energy policy, including a review of energy production, distribution, and pricing within the state, with an emphasis on energy fuels. The
Committee also will study the possibility of creating an entity to develop long-term energy policy. Specifically, the Select Committee is charged with the following:

Energy Fuels. Study the current economic situation as it pertains to energy fuels, which includes pricing, distribution, production, capacity, utilization, and tax policy on fuels such as:

Gasoline – consumer prices at the pump, including a review of crude oil prices, refining costs, and transportation costs;
Diesel – pricing and production;
Bio-Diesel – incentives for bio-diesel production and its users;
Ethanol – capacity within Kansas for ethanol production; the pricing of ethanol
fuels; incentives for ethanol production; ethanol usage; state government utilization of ethanol fuels;
Home Heating Fuels – pricing and production;
Other Alternative Fuels – potential use of other alternative fuels, such as biomass fuels;
Weatherization and Conservation Practices – to minimize the demand on energy fuels;
Access to Kansas Wholesale Markets – to consider access to wholesale markets by independent oil and gas producers; and
Refining Capacity – to consider alternatives which would expand refining capacity in Kansas.

State Entity for Long-Term Energy Policy Development and Monitoring
Review and recommend the appropriate type of legislative or executive entity to formulate and make recommendations regarding long-term state energy policy. This entity would review, monitor, and recommend a coordinated and well thought out statewide energy policy to pursue into the future.

The Select Committee report will include information for legislators and the general public to help understand the current status of energy fuels in Kansas. The Committee will present a final report no later than February 1, 2006, to the 2006 Legislature.

Appendix 6—Framework Kansas Energy Planning Process

Kansas Energy Council, approved May 19, 2005
The Kansas Energy Plan addresses all aspects of energy resource production, transportation, distribution, conservation, and use. The Plan's provisions begin with an idea or ideas from Kansas citizens, special interest groups, Kansas state or local agencies, and the Kansas Energy Council.

The state's energy-related agencies and departments include the Kansas Department of Commerce, Kansas Water Office, the Kansas Department of Wildlife and Parks, the Kansas Department of Agriculture, the Kansas Corporation Commission, the Kansas Geological Survey, and the Kansas State

University Energy Extension Service. The Kansas Energy Council is charged by executive order with coordinating with those agencies and the public.
Ideas generated are compiled in a draft for review by the Kansas Energy Council before it is released to the public each year.

New ideas always may be entered into the mix for consideration. The ideas may come up as informal comments on draft versions of the plan from the public or as formal comments at hearings or meetings. Still others may be sent directly to the Kansas Energy Council. The nature of the comments and ideas determines whether they'll play a part in the current year's plan or held over for review for the next year's plan. The more support rallied for an idea, the greater its chance of inclusion.

The Kansas Energy Council has a high degree of control over the energy planning process. At any point, if it determines additional study is warranted, it can defer action on any issue. The Kansas Energy Council doesn't take final action to approve new ideas and recommendations until it is satisfied that the public has spoken. It is expected that the Governor and Kansas Legislature will generally heed the Kansas Energy Council's advice in the appropriation process.

Policy Issue Planning Process

- Concept Paper and Plan of Study prepared and submitted
- KEC approval to proceed
- Technical Advisory Committee formed
- Background paper developed
- Preliminary draft section of Kansas Energy Plan developed
- KEC approval to release preliminary draft
- Public review (and meetings)
- Working draft section developed
- KEC approval to release working draft
- Public hearings
- Final draft section developed
- KEC final approval of Energy Plan Policy

This process can be initiated at any time by the KEC. The time required to complete the process can be flexible but should included in the approved plan of study.

Appendix 7—Wind and Prairie Initiative – Governor's Letter

January 14, 2005

Mike Hayden, Chair
Natural Resources Sub-Cabinet
Dept of Wildlife and Parks

Lee Allison, Chair
Kansas Energy Council

Dear Secretary Hayden and Dr. Allison:

Thank you to both of your groups for their work in developing recommendations for wind energy development and preservation of the cultural heritage and tallgrass prairie in the Flint Hills region.

Your recommendations are substantive responses to my goal of providing local governments the best practices, tools, and guidelines to help them make informed decisions about these complex issues. It has been my intent from the beginning to foster robust, open, public processes and decision-making at the local level, and to honor Kansas' strongly held beliefs on private property rights.

I believe that our local governments can, with some assistance, find the balance between taking advantage of Kansas' world-class wind resources while preserving the rapidly dwindling tallgrass prairie and the agricultural heritage of the Flint Hills. The cumulative sets of proposals you have forwarded to me will help us reach these goals.

After reviewing your combined recommendations I have decided to adopt the complete set of recommendations of the Sub-Cabinet team submitted to me in November. The key element of those recommendations is to defer to local control and decision-making.

I accept your designation of the Heart of the Flint Hills as our focus area, the boundaries of which are drawn based on a combination of viewscapes, economic development opportunities and impacts, concerns over changes to a long heritage of agricultural stewardship of the landscape, and intact tracts of untilled tallgrass prairie.

I am urging all counties to develop detailed siting rules and public processes for evaluating wind energy proposals in this critical area. In accord with my desire to provide assistance to counties, the Kansas Energy Council, at my request, is preparing a set of detailed wind energy siting standards that are intended to be readily adopted and implemented by counties. These actionable standards are due to be completed by the end of January. I appreciate the offers by the Cabinet secretaries to provide state agency assistance to counties that want to develop local siting standards. The Kansas Association of Counties has offered to be a partner with us in compiling these siting standards for voluntary adoption by individual counties.

While we work with the counties in helping them to develop siting rules for wind energy, our Department of Commerce is assessing economic development opportunities including tourism and wind energy across the Flint Hills region and their potential impacts, both positive and negative. We are committed to taking better advantage of the opportunities provided by the Tallgrass Prairie National Preserve.

In addition, we intend to provide state resources to match federal monies available for purchase of conservation easements from willing landowners. We have had positive responses from private citizens and non-profit groups as well that want to collaborate with the State in providing opportunities for preserving ranching values and conservation in the region.

All three of these initiatives are moving forward in parallel so that counties will have tools in a timely manner to make informed decisions and the resources to act on them. The package of tools that we are providing counties is comprised of 1) detailed, actionable siting standards and assistance from state agencies; 2) assessments of tourism and other economic development opportunities with recommendations on implementation; 3) funds for conservation easements. Until we can get this multi-fold plan fully implemented, I am calling on our utilities and wind energy developers to continue to show restraint on wind energy development in the Heart of the Flint Hills.

As we continue to work out the appropriate balance in the Flint Hills/Tallgrass Prairie region, there are many areas of Kansas where wind energy is poised for development. I am heartened by the recently proposed set of reasonable and practical recommendations from the Kansas Energy Council to promote wind and other renewable energy. I believe we can work out the details where legislation is needed to implement their recommendations. I also look forward to the results of the Council's further deliberations on renewable energy portfolios and renewable energy credits.

While the Energy Council continues to investigate strategies on how to increase renewable energy production, I believe it is appropriate to establish a vision for Kansas. I am calling on our electric industry to have a total of at least 1,000 Megawatts (MW) of renewable energy capacity installed in Kansas by 2015. This would amount to about ten percent of the state's current total electric generation capacity and is more than nine times the installed renewable generation capacity that currently exists in the state. I realize this is an ambitious goal but one I am confident that our energy developers and utilities can achieve if we all work together.

Producing renewable energy brings many benefits to Kansas: it is non-polluting, it produces no greenhouse gases, it adds value to Kansas resources, creates jobs, and brings substantial revenues to local governments. In many areas of the state, it can lower utility bills for consumers.

To help achieve this goal, I am directing state agencies and groups to find ways to facilitate renewable energy development. I request the Kansas Energy Council, in cooperation with the appropriate state agencies, to prepare an impact analysis of requiring state and Regent's facilities to acquire 2.5–5% of their electricity on average statewide from renewable energy sources. This will help ensure a market for the utilities voluntary renewable energy portfolios. The idea is similar to our existing program to use ethanol-based gasoline in state vehicles.

As part of the Energy Council's studies of renewable energy, I ask that they also evaluate creation of voluntary "green tag" programs in Kansas. These programs are in wide use in other states and allow consumers to voluntarily contract for guaranteed renewable energy from their utilities.

I am also asking the Kansas Corporation Commission to look at the full range of benefits that renewable energy brings to Kansas and how those relate to additional investment that may be needed to meet

the goals I have outlined for our utilities. I have instructed them to draw on expertise in other state agencies as needed to carry out this task.

For the past year, I have urged development of renewable energy and particulary wind energy projects, in areas where it is appropriate. As we work together to define a vision for the future of the tallgrass prairie, I am recommending that none of the new incentives that are being considered for renewable energy be applicable to commercial wind projects in the Heart of the Flint Hills area.

I will be calling on the members of the Kansas Congressional delegation to support efforts to extend the federal Production Tax Credit on wind energy for sufficient time to allow more projects to be built in Kansas and across the nation, and to provide more certainty to an industry buffeted by boom-and-bust cycles. I am pleased that other leaders around the country are echoing my proposal so that this might be acted on in the near term by Congress.

Together, these initiatives constitute a powerful set of tools to carry out our core goals: empowering local decision-making, respect for private property, investment in economic development in appropriate areas, and public-private partnerships for the long-term benefit of Kansans.

I appreciate the thoughtful deliberations you put into your recommendations and look forward to working with you and your groups to make them reality.

Sincerely,
Kathleen Sebelius

CC Cabinet secretaries/members of the NR Subcabinet

Appendix 8—Oklahoma Tax Credit Statute

§68-2357.32A. Electricity generated by zero-emission facilities - Tax credit.

A. For tax years beginning on or after January 1, 2003, there shall be allowed a credit against the tax imposed by Section 2355 of this title to a taxpayer for the taxpayer's production and sale to an unrelated person of electricity generated by zero-emission facilities located in this state. As used in this section:

1. "Electricity generated by zero-emission facilities" means electricity that is exclusively produced by any facility located in this state with a rated production capacity of fifty megawatts (50 mw) or greater, constructed for the generation of electricity and placed in operation after June 4, 2001, which utilizes eligible renewable resources as its fuel source. The construction and operation of such facilities shall result in no pollution or emissions that are or may be harmful to the environment, pursuant to a determination by the Department of Environmental Quality; and

2. "Eligible renewable resources" means resources derived from:

   a. wind,
   b. moving water,
   c. sun, or
   d. geothermal energy.

B. For electricity generated on or after January 1, 2003, but prior to January 1, 2004, the amount of the credit shall be seventy-five one hundredths of one cent ($0.0075) for each kilowatt-hour of electricity generated by zero-emission facilities. For electricity generated on or after January 1, 2004, but prior to January 1, 2007, the amount of the credit shall be fifty one hundredths of one cent ($0.0050) per kilowatt-hour for electricity generated by zero-emission facilities. For electricity generated on or after January 1, 2007, but prior to January 1, 2012, the amount of the credit shall be twenty-five one hundredths of one cent ($0.0025) per kilowatt-hour of electricity generated by zero-emission facilities.

C. Credits may be claimed with respect to electricity generated on or after January 1, 2003, during a ten-year period following the date that the facility is placed in operation on or after June 4, 2001.

D. If the credit allowed pursuant to this section exceeds the amount of income taxes due or if there are no state income taxes due on the income of the taxpayer, the amount of the credit allowed but not used in any tax year may be carried forward as a credit against subsequent income tax liability for a period not exceeding ten (10) years.

E. Any nontaxable entities, including agencies of the State of Oklahoma or political subdivisions thereof, shall be eligible to establish a transferable tax credit in the amount provided in subsection B of this section. Such tax credit shall be a property right available to a state agency or political subdivision of this state to transfer or sell to a taxable entity, whether individual or corporate, who shall have an actual or anticipated income tax liability under Section 2355 of this title. These tax credit provisions are authorized as an incentive to the State of Oklahoma, its agencies and political subdivisions to encourage the expenditure of funds in the development, construction and utilization of electricity from zero-emission facilities as defined in subsection A of this section.

F. The amount of the credit allowed, but not used, shall be freely transferable at any time during the ten (10) years following the year of qualification. Any person to whom or to which a tax credit is transferred shall have only such rights to claim and use the credit under the terms that would have applied to the entity by whom or by which the tax credit was transferred. The provisions of this subsection shall not limit the ability of a tax credit transferee to reduce the tax liability of the transferee, re-

gardless of the actual tax liability of the tax credit transferor, for the relevant taxable period. The transferor initially allowed the credit and any subsequent transferees shall jointly file a copy of any written transfer agreement with the Oklahoma Tax Commission within thirty (30) days of the transfer. The written agreement shall contain the name, address and taxpayer identification number or social security number of the parties to the transfer, the amount of the credit being transferred, the year the credit was originally allowed to the transferor, and the tax year or years for which the credit may be claimed. The Tax Commission may promulgate rules to permit verification of the validity and timeliness of the tax credit claimed upon a tax return pursuant to this subsection but shall not promulgate any rules that unduly restrict or hinder the transfers of such tax credit. The tax credit allowed by this section, upon the election of the taxpayer, may be claimed as a payment of tax, a prepayment of tax or a payment of estimated tax for purposes of Section 1803 or Section 2355 of this title.

G. For electricity generation produced and sold in a calendar year, the tax credit allowed by the provisions of this section, upon election of the taxpayer, shall be treated and may be claimed as a payment of tax, a prepayment of tax or a payment of estimated tax for purposes of Section 2355 of this title on or after July 1 of the following calendar year.

[10]Added by Laws 2001, c. 397, § 5, emerg. eff. June 4, 2001. Amended by Laws 2002, c. 313, § 2, eff. Nov. 1, 2002.

[11]